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Foundry and Shops of Striking Design

Result of a Studious Effort to Attain the
Ideal in Michigan Plant—Unique Storage
Building Contains Bins for All Materials Used

BY CHARLES LUNDBERG

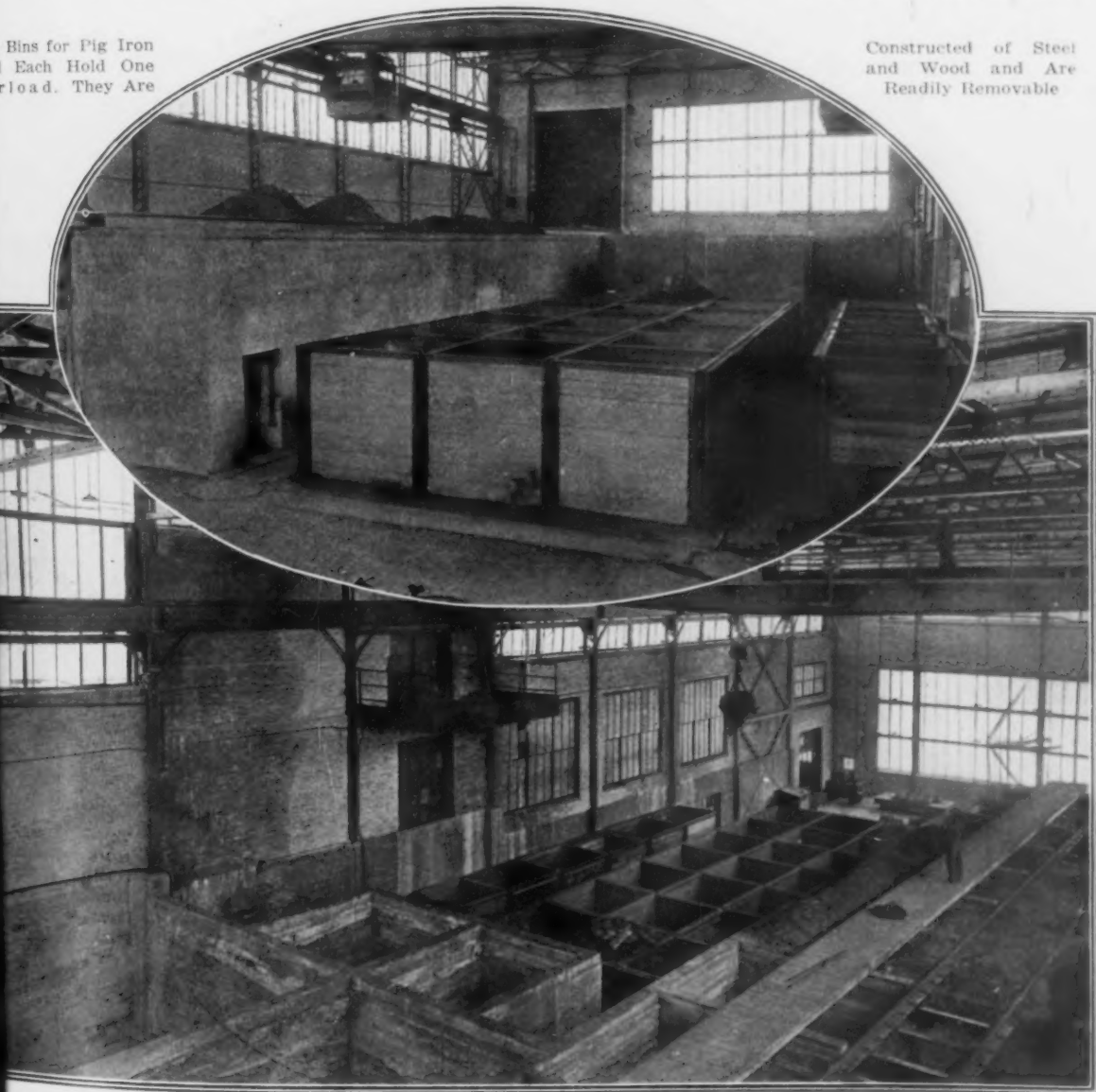
THE Consolidated Press Co., Hastings, Mich., has completed a machine shop and foundry which for effective design, facilities for handling material, sanitation, lighting, and comfort the employees stands among the foremost of the many splendid plants built in recent years. Not only was thought and money expended on what is commonly accounted the more practical side, but the architects and engineers, under the direction of

H. B. Sherman, president of the company, created an institution as good to look at as it is an ideal place in which to work. The foundry adjoins a machine shop built about three years ago with the same care and high regard for ideals. Work on the foundry was started last summer.

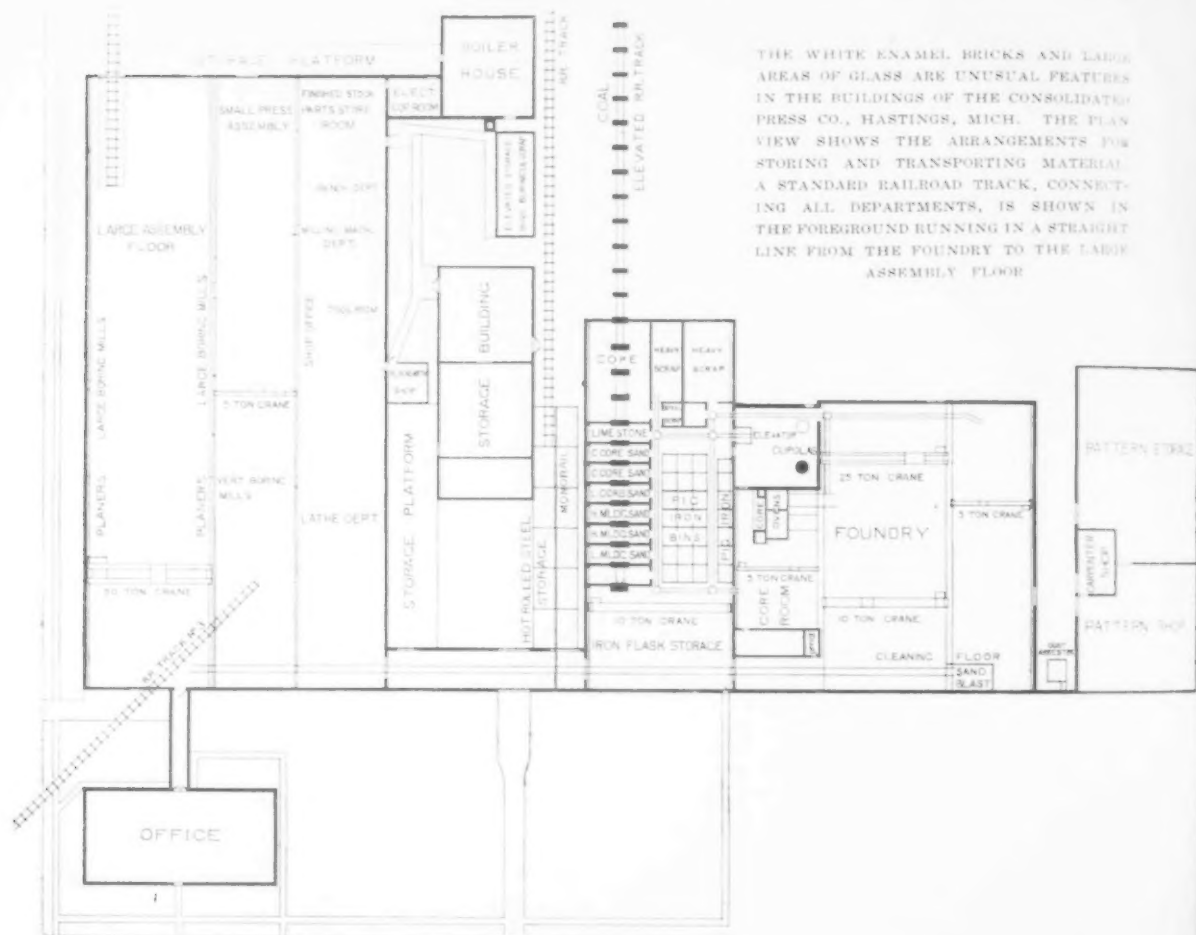
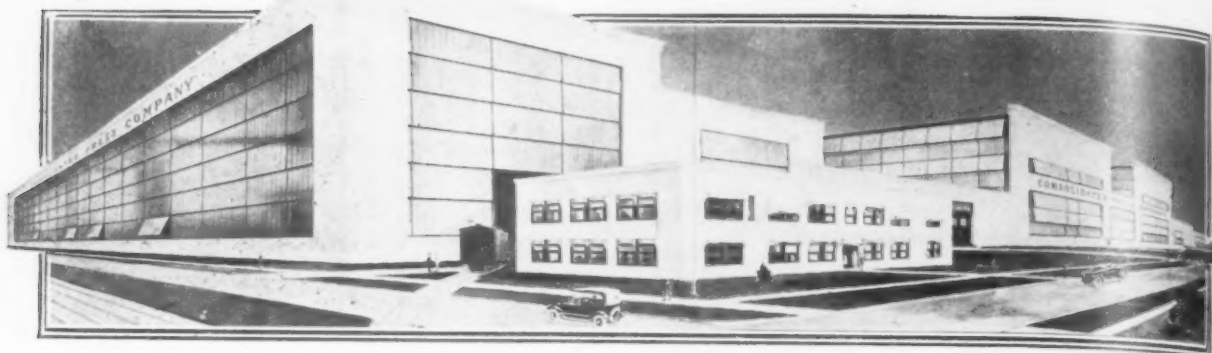
As one approaches the building, he is immediately impressed with its unusual appearance, the exterior consisting of white enamel brick, with broad

The Bins for Pig Iron
Will Each Hold One
Carload. They Are

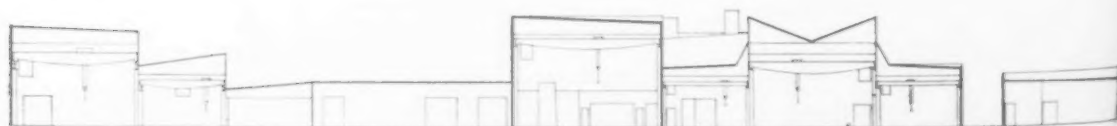
Constructed of Steel
and Wood and Are
Readily Removable



Interior of Storage Building. Looking Down on the Bins. There are three ways of raising material to the charging floor, by crane and magnet, crane and truck, and elevator



THE WHITE ENAMEL BRICKS AND LARGE AREAS OF GLASS ARE UNUSUAL FEATURES IN THE BUILDINGS OF THE CONSOLIDATED PRESS CO., HASTINGS, MICH. THE PLAN VIEW SHOWS THE ARRANGEMENTS FOR STORING AND TRANSPORTING MATERIAL. A STANDARD RAILROAD TRACK, CONNECTING ALL DEPARTMENTS, IS SHOWN IN THE FOREGROUND RUNNING IN A STRAIGHT LINE FROM THE FOUNDRY TO THE LARGE ASSEMBLY FLOOR.



THE CENTER BUILDING IN THE OVAL IS THE FOUNDRY, AND THE ONE WITH THE TRACK, THE MATERIAL STORAGE BUILDING. THE RAILROAD



TRACK IS ELEVATED SOME DISTANCE BEFORE IT ENTERS THE FOUNDRY, IN ANTICIPATION OF A POSSIBLE EXTENSION OF THE BUILDING.



The Foundry is Well Lighted and Ventilated. In the far corner is the cleaning department which is equipped with an efficient exhaust system. The truck shown in the background, running on standard gage track, traverses in a straight line, all departments including the machine shop.

areas of glass. The buildings stand on a corner plot and on either street side the name of the company is inlaid in green terra cotta, white and green being the color scheme of the exterior. The management sought to build a factory that would be inspirational to all who view it, and especially to the workers within its walls.

Before the plans were prepared, the architects, with representatives of the management, visited a number of the better plants of the country for the purpose of studying their construction and interior arrangements with a view of absorbing the best in

each that was applicable to the then contemplated plant of the Consolidated company. Wherever possible it was sought to improve on the methods and designs seen elsewhere.

Frank D. Chase, Inc., Chicago, designing and consulting engineers, designed the buildings of both foundry and machine shop, as well as many of the interior arrangements, and supervised the work of construction. The Charles C. Kavin Co., Chicago, furnished specifications for the equipment in the foundry, also designing some of the special equipment features.



The Core Department Is Equipped with Two Car Type and Two Drawer Type Cranes. It has a concrete floor. Adjoining it is a large room for the comfort of women when they are employed.



The Charging Floor Overlooks the Foundry. It is served by a 6000-lb. traction elevator, and is equipped with an 8-beam scale. The cupola has two doors, and the steel framing is designed to permit of the installation of another cupola and a charging machine.

Every department of the new foundry is under roof, including the storage space for pig iron, scrap, coke, sand, coal, flasks and all else that is used. Heavy snowfalls, characteristic of Michigan, will not impede or halt operations, for not only are all materials under cover but there is ample capacity as insurance against a siege of bad weather or delayed arrivals of rail shipments. A year ago when several feet of snow covered the state, a month elapsed before some of the foundries had dug themselves out or received materials which had been held up. Transportation of finished castings, needless to say, was similarly blocked, and in the shops of the Con-

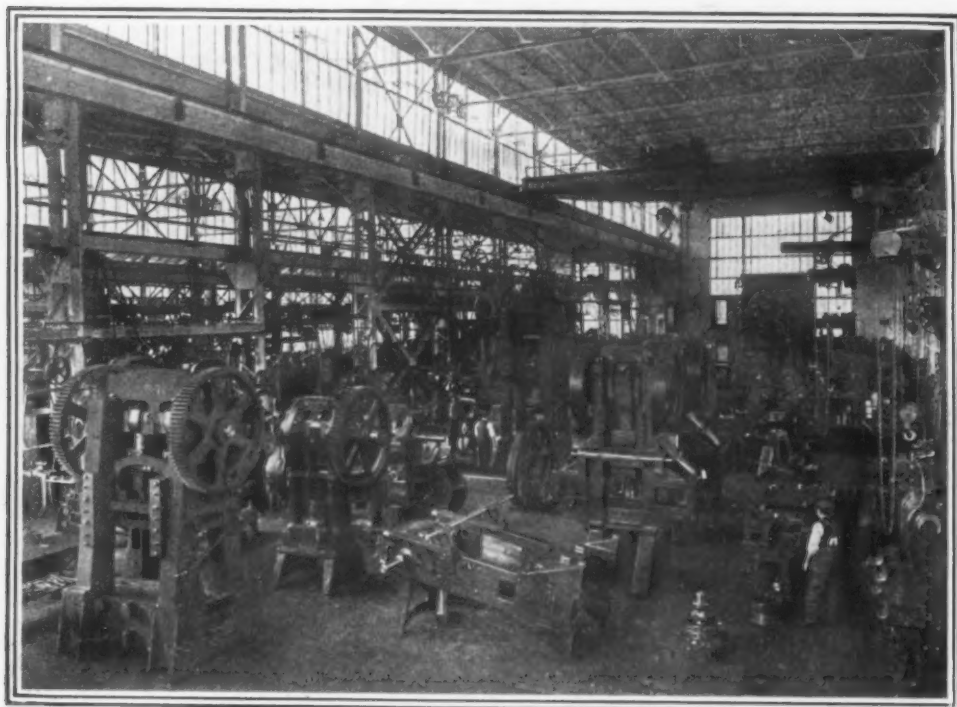
solidated Press Co., work was delayed.

The views of the raw material storage building show two large bins or pockets for cast scrap, each 14 ft. high, 15 ft. wide and 27 ft. 7 in. in length. Two smaller bins of concrete are for manganese and machinery steel scrap used in semi-steel mixtures. The smaller concrete bins are approximately 10 ft. square and 14 ft. high. On the tops of the reinforced concrete walls of each of these bins is laid a steel channel with the flanges downward to protect them from injury.

For the storage of pig iron there are 27 bins of steel and wood construction, each capable of holding one carload. They are constructed of steel angles held together by straps so that sides of heavy planking may be inserted. The upright steel posts at the corners rest in sockets embedded in concrete, making it possible to

knock down one or more bins as desired.

Under the elevated track are eight concrete bins for various sands, and others for limestone, coke, coal, etc., all 14 ft. in height. The eight sand bins are 10 x 30 ft., and the coke bin 30 x 50 ft. All can be filled directly from hopper cars. The pig iron and scrap bins are filled by magnet, the heavier pieces of scrap being handled by crane. It was first intended to excavate for the bins, making their tops flush with the floor, but as the result of a happy thought the excavating was not done, and the railroad track entering the building was elevated. The



The Main Bay of the Machine Shop Looking Toward the End from Which Completed Presses are Shipped. There are tracks for incoming and outgoing material. In addition to the 50-ton traveling crane, there are several 5-ton jib cranes.



A Section of the Pattern Shop, Which Adjoins the Pattern Storage in the Same Building. This is the only plant structure which is not fireproof, the designers having proceeded on the principle that it is impossible to make a building fireproof when it is filled with inflammable material

change enabled the loading of small industrial cars without the use of either crane or magnet should necessity arise, as will be explained.

The aisles around the bins are traversed by industrial tracks with turntables at each corner. The bins are accessible at the floor level and in the case of the concrete bins, through doors in the bottom. This lay-out enables material to be taken to the charging floor in three ways, as follows: Pig iron and scrap may be placed on the charging floor platform by the magnet; the crane can pick up a loaded car by its ears and lift it to the charging-floor platform; a car may be loaded, run a few feet to an elevator and then raised to the charging floor. The charging-floor platform will support 2000 lb. per sq. ft., and thus can withstand the shock resulting when heavy material is dropped upon it. The capacity of the charging floor itself is 500 lb. per sq. ft.

Space is provided in front of the scrap bins for the storage of flasks, the space being crossed at one end by a standard gage track which extends into the foundry and on which run ball-bearing cars, 8 x 12 ft. A track scale is provided.

The storage building, 70 x 180 ft., is served by a 10-ton Whiting crane. Over the railroad track entrance is a rolling steel door. The building at that end is of temporary construction to permit of easy extension in the future. In line with expected growth, the railroad track serving the building was

elevated for some distance before it enters the structure. Hot rolled steel bars are brought to the plant on the tracks shown to the right of the storage building.

A point to be emphasized in connection with the storage building, in addition to the fact that the men therein have a good place to work in any kind of weather, is that a large yard gang is not required, in fact, one man operating the crane can handle all iron and scrap with ease. Throughout the plant the maximum elimination of hand work is sought, a prime reason for this being that in the opinion of the management, labor costs promise to



The Intermediate Bay in Which Small and Medium-Sized Presses Are Assembled. Of interest here is the method of making a running test of presses by means of a portable electric motor; also the short benches each of which is fitted with four vises

be high for some time to come. Incidentally, high wages are not objected to, but production must be commensurate with labor costs.

The foundry building proper is 140 x 140 ft. The cleaning department, which contains a Sly sand-blast room and tumbling barrels, is not enclosed, this being made possible by an efficient exhaust system. The flooring of this department, which is served by a 5-ton crane, is wood block. There is a concrete floor in the section where small molding is done, and a regulation clay floor where the large molds are made. At the time the views shown were taken the foundry was only in partial operation and largely engaged in making semi-steel and cast-iron flasks for home use. The flasks are made in dimensions to secure various combinations of size for the company's work, with large handles for lifting, which also serve as rockers when turning a flask over. Steel trunnions are cast in the sides.

A point to be noted in the foundry, and elsewhere throughout the plant, is the manner in which urinals, conveniently placed, are enclosed in sheet metal in the form of a scroll. Adjacent to every enclosure of this kind is a white enamel sanitary drinking fountain, an arrangement that has been found a time-saver.

In the foundry is a 20,000-lb. Herman jolt machine. In the main molding floor are two concrete pits, each 10 x 12 x 20 ft., arranged for subdivision. The main foundry floor is served by one 10-ton Bedford crane, a 25-ton Whiting crane with 5-ton auxiliary, and one 5-ton crane over the side floor. The core room contains two car type and two drawer-type ovens, and a 5-ton crane operated from the floor. Adjoining this room on the ground floor is a room designed for the comfort of women employees should they be used in core work.

In the foundry are two continuous-circuit air lines to supply power at uniform pressure to compressed air equipment, one circuit being attached to the walls, and the other supported by the steel columns.

The superintendent's office, on one corner of the foundry, is glass enclosed and so located that sitting at his desk the superintendent has a clear view of the molding floors, cleaning room, core-room, weighing scale, and the exit and entrance of both men and material. Over this office, reached by stairs, is a locker and washroom for the molders. On a mezzanine floor beneath the charging floor is a compressor, blower and other equipment.

At present the melting is done with an 84-in. Whiting cupola, but the steel work of the charging floor was designed to permit of the easy installation of a second unit. The cupola has two doors, and the steel framing also has provision for the installation of a charging machine. A chain block and suitable levers, operated by one man, are used to raise the drop doors. In addition to the main support for these doors, there are two others with screw adjustment to absorb the whip when heavy portions of the charge make their impact. In front of the cupola spout is a pit lined with concrete so that metal may be directly tapped into large ladles. Ordinarily this pit is filled with sand and bridged by a removable section of the industrial track which runs around the foundry floor.

The pattern building, containing both shop and storage, altogether 80 x 160 ft., is the only structure which is not fireproof, the logic of this being that no building is fireproof when it is filled with inflammable material. The pattern racks, for which there also is a mezzanine floor, are made movable on cast-iron arms clamped to steel uprights. The building has a sprinkler system, the floor boards of

the mezzanine being equally spaced apart to allow water to reach the ground floor.

The sash used in this daylight plant is of the Lupton type, suspended from the top, and floor operated. The roof is of the Pond type. The machine shop is roofed with Federal cement tile, the other buildings with gypsum tile, all being covered with Barrett roofing.

Artificial lighting is supplied by high intensity lamps placed near the roof and so out of the line of vision. The lighting was figured on the basis of $3\frac{1}{2}$ candlepower on a 30-in. plane. The lamps used vary in candlepower according to their location, and are distributed to insure an evenly diffused light.

The machine shop is entered by two railroad tracks, and by another which traverses all the buildings and brings castings from the foundry. From the end of the building where work is laid out, material moves in a straight line, except where some lateral motion is necessary for certain machine work, to the opposite end of the shop where finished machines are placed on cars on a track depressed to make the car floors flush with the shop floor.

The machine shop, 150 x 300 ft., is divided into three bays and is in every way as attractive as the foundry. Its walls are almost entirely of glass, the floor is of concrete and the roof of concrete tile. The bays are of different heights, the highest, in which the heavier work is done, being 55 ft. in height and 60 ft. in width. It is served by a 50-ton Shaw crane and five 2-ton electric jib cranes. This bay contains planers, boring mills and other heavy tools. Large presses are almost entirely constructed in this section of the shop.

Aisle space is designated by white lines painted on the floor. The lines are renewed each week, and a law of the shop is that aisles must be kept clear of obstructions.

The adjoining, or intermediate bay is 50 ft. in width and has a 5-ton Shaw crane and several jib cranes. Herein are a small planer, slotter, horizontal boring mills, grinding machines, radial drills, drill presses, keyseaters, vertical boring mills, small assembly department and the shop office. It is largely devoted to the production and assembly of small and medium-sized presses. A running test of each lot of presses is made by means of a portable electric motor. For small parts work, it has been found feasible to have four vises attached to a comparatively small bench. The presses made in the plant vary from 150 to 300,000 lb. in weight.

The third bay, 40 ft. in width, in which are lathes, milling machines, benches, tool room, etc., because of the nature of its work, requires no crane.

The office building, a separate structure also enclosed in white enamel brick, is connected with the machine shop by a double deck enclosed passageway, the upper level of which gives access to the works from the executive offices, while the lower is used by the shop force in going to and from the wash and locker room, in the basement of the office building.

The company, originally incorporated in 1905 as the Consolidated Press & Tool Co., until 1910 manufactured power presses, dies and tin-can machinery, but in the latter year it was decided to concentrate on power presses, the company maintaining, however, a service and engineering department for the purchasers of its machines. It designs dies but does not make them.

H. B. Sherman is president; L. W. Heath, treasurer and manager; Joseph McKnight, first vice-president and works manager; A. H. Warner, Jr., second vice-president; Gordon E. Townsend, third vice-president, and Charles R. Sylvester, secretary.

President Farrell Issues Call to Action

All Americans Interested in Overseas Commerce
Invited to Attend with National Foreign Trade
Convention at Chicago in April—The Program

JAMES A. FARRELL, chairman of the National Foreign Trade Council, has issued the formal call for the sixth national foreign trade convention to be held in the Congress Hotel, Chicago, Thursday, Friday and Saturday, April 24, 25 and 26.

"Foreign Trade Essential to American Industry" will be the theme of the convention.

"The abrupt termination of the war in Europe," says Mr. Farrell, "has brought the United States suddenly face to face with certain questions of grave concern to American foreign trade and industry.

"Now, as never before, the United States must rely upon foreign trade to make certain the full employment of labor and to provide investment for capital; to stabilize industry and prevent disturbance of domestic conditions; to insure the permanent retention and

representatives of the Government departments dealing with foreign trade.

"This is a call to action. The opportunity is at hand. A great foreign trade is ours, if only we proceed with energy upon lines of sound policy. A great carrying trade under our own flag is ours, if only we make it possible to operate our new ships in competition with those of other nations."

The work of organizing the convention is being handled by O. K. Davis, secretary of the National Foreign Trade Council, 1 Hanover Square, New York. Requests for hotel reservations should be addressed to H. H. Merrick, chairman hotel committee, Chicago Association of Commerce, 10 South La Salle Street, Chicago.

Practical information for present needs will be the

Tentative Program of Foreign Trade Convention

FIRST DAY, THURSDAY, APRIL 24

Convention called to order at 10 a. m. by James A. Farrell, chairman of the National Foreign Trade Council.

Organization of convention—Election of presiding officers, secretaries, etc.; address of president of convention; appointment of general convention committee. Session topic: America's Need of Foreign Trade, from the viewpoint of production, finance, labor and imports.

Afternoon session, 2.30 p. m.—Session topic: Post-War Foreign Trade Problems, a series of addresses dealing with general trade matters.

Evening session, 8 p. m.—Group sessions.

Group I. Commercial Education for Foreign Trade.

Group II. Foreign Trade Merchandising, in co-operation with the American Exporters' and Importers' Association.

Group III. Financing Foreign Trade, in co-operation with the American Bankers' Association.

Group IV. Advertising for Foreign Trade.

SECOND DAY, FRIDAY, APRIL 25

Morning session, 10 a. m.—Session topic: The American Merchant Marine, in which will be considered American ship-building, provision of cargoes, establishment of trade routes and return cargoes, inland waterways, American and foreign navigation systems and the formation of an American maritime policy.

Afternoon session, 2.30 p. m.—Group sessions.

Group V. Foreign Credits, in co-operation with the National Association of Credit Men.

Group VI. Direct Selling, in co-operation with the American Manufacturers' Export Association.

Group VII. Export Combinations, describing the Webb law in actual operation.

Group VIII. Ocean Service, in co-operation with the American Steamship Association.

Friday evening, 7 p. m.—Banquet, Congress Hotel.

A number of speakers of national prominence will present several highly important foreign trade subjects.

THIRD DAY, SATURDAY, APRIL 26

Morning session, 10 a. m.—Reports of group sessions, report of general convention committee, miscellaneous business, adjournment.

operation of our new merchant vessels under the American flag; to maintain prosperity among American producers and to forestall any retrogression from the high standards that have been achieved.

"To give constructive consideration to the needs of American foreign trade enterprise in this emergency; to assist in devising means and methods that will enable our overseas commerce effectively to meet the conditions which it faces, and to arouse American manufacturers, farmers, merchants, laborers, bankers, educators, railway and steamship men—all the factors of foreign trade in all sections of the country—to the imperative necessity of bending their energies to the prompt solution of these problems, the National Foreign Trade Council hereby calls the sixth national foreign trade convention.

"All Americans engaged in or desirous of entering overseas commerce, and especially all chambers of commerce, board of trade, trade associations and other commercial and industrial organizations, as well as firms and individuals, are hereby cordially invited to take part in the serious consideration of the most pressing and far-reaching problems which have yet been presented.

"Part of the time of the convention will be devoted to the presentation of papers by men who are directing the chief industries of the Nation. The greater part will be devoted to the more intimate discussion of specific problems in group sessions, under qualified experts, and in personal conferences with experienced repre-

dominant note of the convention. The time for general discussion is to be greatly increased. The convention is divided in two parts: General and group sessions.

At the general session the background is to be provided on which to place the more detailed information of the group sessions. These latter deal with the facts and figures of foreign trade. Personal experiences are described, and leading authorities give their opinions of the points at issue.

This year the convention has assembled a large amount of valuable technical information, which is available to all delegates who wish to use it. This information will be furnished by the volunteer trade advisors of some of the most experienced business houses and by the representatives of the Government trade agencies. A number of prominent business men of long experience in every branch of foreign trade have offered their services as volunteer advisors. The information they can give is based on personal experience, and as such is doubly valuable. In addition, the Department of State will co-operate by assigning to the convention some members of the Consular Service, who will just have returned from Europe, Latin America and the Far East. The Department of Commerce will send a number of its experts from the Bureau of Foreign and Domestic Commerce. The Shipping Board will be represented. The Pan-American Union will be present to give information on Latin-American relations. These men are thoroughly familiar with their respective fields.

WHY FRANCE WITHDREW

Was Determined Not to Give Chance to Say She Was the Aggressor

A cablegram to the New York *Tribune* from Paris asks these questions: "Why weren't the enormous steel and iron works of the Briey district bombarded by the French from the earliest days of the war? Why did the French troops retire deliberately, less than a week before war was declared, six miles within the frontier?"

In answering these questions, the cablegram says: "The debate now proceeding in the Chamber of Deputies is throwing much light upon both subjects, as well as proving the responsibility of Germany for the war.

"In various speeches Aristide Briand and Rene Viviani, successive heads of the French Government during the earlier months of the war, have supported the argument that Briey was not bombarded because the French at first were not provided with the necessary guns and aeroplanes, and subsequently when these materials were available they were obliged to use them elsewhere.

"General Nivelle, the commander in chief in 1916, says, in a statement just published, that Briey at that time was out of the range of the French guns. Reports of Marshal Joffre, quoted in the Chamber of Deputies, show that the whole Briey basin was commanded by the guns of the German fortress of Metz, and therefore it was useless for the French to have attempted to hold it, and there were other statements to the effect that even without Briey the Germans would have been enabled to get all the iron ore they required from Luxembourg, German Lorraine and Sweden.

Balked German Trick

"General Messimy, a civilian and War Minister at the outbreak of the war, reveals for the first time in an article in the *Matin* the reason for what has been generally regarded as the quixotic withdrawal of the French forces behind the frontiers at the end of July, 1914. The French intelligence service, he declares, absolutely knew that Germany was mobilizing secretly, but was endeavoring to make France appear as the aggressor, as in the case of the forged telegram of Ems in 1870.

"The mere wandering of one of our patrols across the frontier at night," he says, "would have given her the excuse she sought. In order to avoid falling into a trap, I proposed a wholesale withdrawal ten kilometers behind the frontier. At that time the intervention of England on our side was anything but certain, and the neutrality of Italy, which was bound in a defensive alliance with Austria and Germany, depended upon who was the aggressor.

"A few hours after our troops withdrew England assured us she would help us, as Austria and Germany were the aggressors. Italy undertook to remain neutral and ten months later became our faithful ally. The nations of Europe and America have since, at their own time, fulfilled our expectations and our hopes."

Trumbull Steel Co.'s Annual Meeting

YOUNGSTOWN, OHIO, Feb. 10.—At the annual meeting of the Trumbull Steel Co., Feb. 4, the following directors were re-elected: Jonathan Warner, W. H. B. Ward, Philip Wick, John T. Harrington, and A. N. Flora. Officers were elected as follows: President, Jonathan Warner; vice-presidents, W. H. B. Ward, Philip Wick and A. N. Flora; secretary, William M. McFate, and treasurer, Lloyd Booth. Mr. Ward is vice-president in charge of operations while Mr. Flora is vice-president in charge of sales.

Shipment of 220,519 tons of finished material is an increase of 60,519 tons over the year before, while gross sales of \$27,000,000 compare with \$26,240,000 in 1917. The company's present payroll, with a working force of 5000 men, is \$900,000 a month.

Mr. Warner stated the business now being booked is surprisingly large in view of general conditions. He

declared volume of business would not reach maximum until the buying public is convinced prices have reached bedrock. He states the company entered the new year with a substantial supply of pig tin purchased at reasonable prices. Last year the company distributed \$1,368,087 in dividends to stockholders at the rate of 7 per cent on preferred and 15½ on common, in comparison with \$2,500,000 paid in taxes and \$7,000,000 in wages. On the basis of the statement, common stock is worth about \$200 a share. He pointed out that Trumbull had operated under extreme difficulties last year and cited the fact that a turbine and other equipment for the new steel works were requisitioned by the Government for a battleship, thus delaying operation of the unit.

With acquisition of ore reserves of approximately 5,000,000 tons in the Lake Superior region, the company is now practically self-contained in raw materials. In 1917 the corporation purchased a large interest in a Pennsylvania coal property of 700 acres, from which its gas coal requirements will be supplied for many years.

Substantially increased production last year was due in large measure to operation of its cold and hot-strip mills. The company is now operating 19 tin mills, 11 sheet mills and two jobbing mills, in addition to its strip mills. Its annual capacity is rated at 300,000 tons. Its tin and sheet mills are interchangeable.

American Steel Treaters' Society Organized

The American Steel Treaters' Society, the formation of which was noted recently in THE IRON AGE, has announced the purpose of its organization to be primarily: "To promote the arts and sciences connected with the heat treatment of steel. The principal means for this purpose is to be the holding of meetings for the reading and discussion of papers bearing upon processes, instruments, equipment, apparatus, etc., employed in practical and research work connected with the art, collection, publication and dissemination of technical and practical knowledge for the improvement of conditions in connection therewith, and to closely unite those engaged in its practical and technical branches."

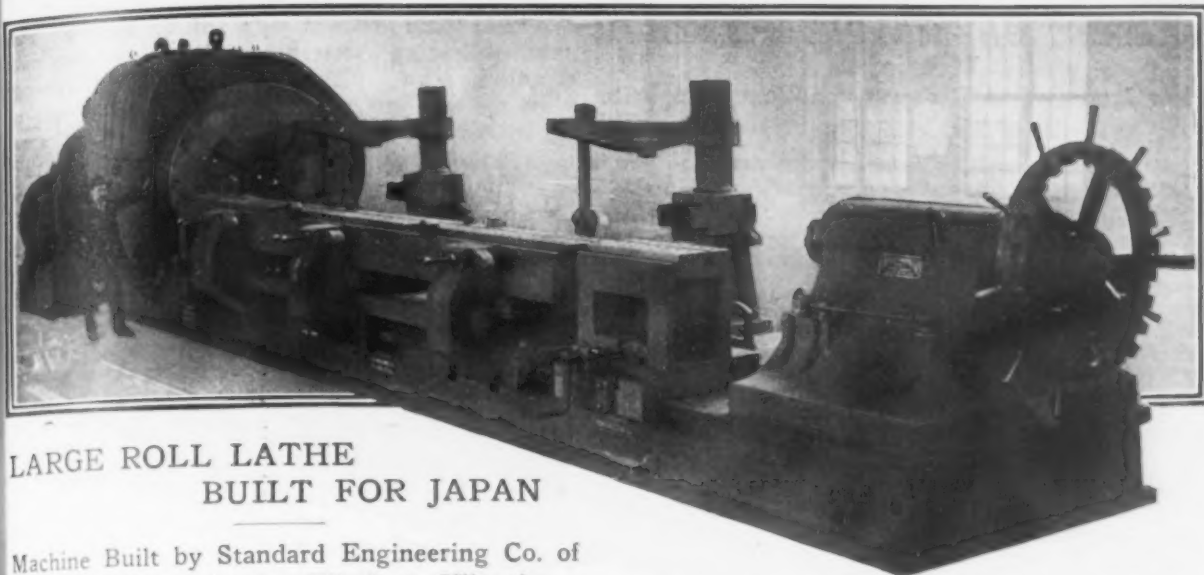
It is one of the aims of the society to reach right into the heat-treating rooms of the various industries and further the worker's knowledge of the art by bringing him out to its meetings, where he will come into intimate contact with metallurgists, chemists and scientific men, as well as by the same means give him an opportunity to exchange experiences with practical men from other plants, and thus serve as a bridge between the theoretical and practical men.

A monthly journal which brings the papers and discussions had at various meetings directly to the hands of every member, is published. Comprehensive and valuable service features are also a growing part of the journal and of the society's activities. Sample copies and other information may be had by addressing its general office, 154 East Erie Street, Chicago.

In addition to meetings at Chicago, a chapter has been organized at Cleveland, and movements of this kind are now under way in several other large cities.

Conference of Industrial Engineers at New York

At the national conference of the Society of Industrial Engineers to be held at the Hotel McAlpin, March 18-21, announcement is made that two formal business sessions will be held daily except on the last day. These meetings will be called at 2 p. m. and 8 p. m. Round table discussions will be held from 10 to 12 on the mornings of March 19 and 20. The exhibition hall will be open from 10 a. m. to 11 p. m., except on the first day when it will open at 1 p. m. No admission will be charged; but exhibition space will be at 50 cents per sq. ft. At the 1918 conference in Chicago, registration was from 21 states, Canada and Denmark. George C. Dent, 328 South La Salle Street, Chicago, is business manager.



LARGE ROLL LATHE BUILT FOR JAPAN

Machine Built by Standard Engineering Co. of
Massive Proportions to Eliminate Vibration

What is said to be the largest roll lathe ever built, intended for shipment to a large steel works in Japan, has just been completed in its shops by the Standard Engineering Co., Ellwood City, Pa., designer and builder of rolling mill and special machinery. On account of the steadily increasing demands for larger output and more accurate work in rolling of steel, this necessitating more accuracy in the turning of rolls, it was the intention of the builders to design a machine so massive and heavy that large rolls could be turned in a minimum amount of time and with the least possible chance of vibration and chatter. The lathe swings 62 in. over the necking rests, and in front of the piano rest, and its total weight is approximately 275,000 lb.

The bed is 42 ft. long, not including the extension for supporting the motor, and weighs about 1400 lb. per lineal foot. On account of the difficulty in transportation, it is made in three sections, each 14 ft. long. In addition to being bolted together at the joints, a heavy plate is bolted up against the bottom, and keys driven in between lugs on bottom of bed and top of plate, thus providing additional means of drawing the sections of bed together. These plates also serve to keep the bed sections in line with each other. In addition to all this, shrink links are inserted at the joints.

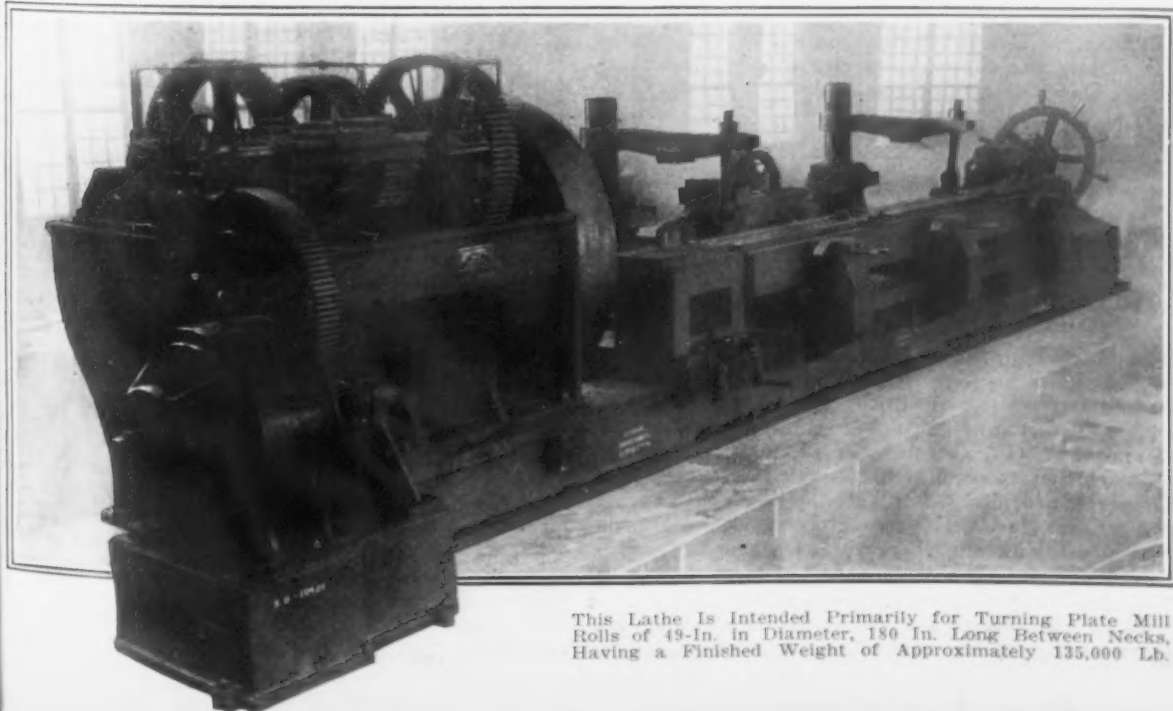
All headstock gears have cut teeth, large size and broad face, and with the exception of the fabroil pinion on the motor are made of steel. The motor gears have $2\frac{1}{2}$ diametral pitch, 6-in. face. The next pair in the speed reduction 2 diametral pitch, 8-in. face; the change

gears, $1\frac{1}{2}$ diametral pitch, 10-in. face; and the last pair inside the headstock, 1 diametral pitch, 12-in. face. The internal gear cut in the face plate is 4-in. circular pitch by 14-in. face. All these gears, except the motor pinion and its gear which run in a separate case and the face plate gear and its pinion, are entirely enclosed within the headstock. They and the bearings are lubricated by streams of oil from a geared pump.

In addition to the various speeds obtainable by the adjustable speed motor, the machine is provided with sliding gears, giving two speeds for each motor speed. These gears are moved by a screw and a handwheel at the end of the headstock. The slowest speed of the face plate is 0.2 r.p.m. The headstock is provided with a cast-iron cover, and everything is so arranged that when the cover is lifted off, all gears and moving parts are accessible. The headstock spindle is of 14-in. diameter.

All housings are steel, and in addition to the two of regulation type there is a third housing for supporting the roll at the center, and also for giving additional support to the piano rest. The necking rests are furnished with feed screws for moving them on their saddles.

The tailstock is a steel casting, and its holding down bolts are so arranged that it can be quickly lifted from any part of the bed. As it weighs about 17,000 lb., it was thought the best way to move it would be by means of a crane, and therefore it has not been provided with rollers underneath. The handwheel has notches in it, and a bar 10 ft. long with one end pivoted to the hand wheel hub is provided for putting the pressure on. The tailstock spindle is of 11-in. diameter.



This Lathe Is Intended Primarily for Turning Plate Mill Rolls of 49-In. in Diameter, 180 In. Long Between Necks, Having a Finished Weight of Approximately 135,000 Lb.

PRESENT DAY NATIVE SMELTING

How Iron Ore Is Reduced and Converted Into Tools in Rhodesia, South Africa

How native smelters work in northern Rhodesia, South Africa, is recounted by Arthur R. Hornby, writing from Kazombo in that far-off country. Mr. Hornby considers that he has been fortunate in securing a photograph revealing the method and apparatus of these native smelters. His description follows:

The whole structure, as shown by the illustration, is built of earth obtained from a neighboring anthill which is made into mud and allowed to dry. The center of the upright conical part is quite hollow. The projection set at inclined angle is concave and leads to the central hollow. A hole is made in the base of the cone for the insertion of the nozzle of the bellows, while at the opposite side to the bellows two or three slots are made, giving it the appearance of bars of a grate, which also allows for a free blast right through.

A fire is started in the base and charcoal and iron ore in small pieces are placed on the "tray" and in the hole so that as the charcoal burns and a very great heat is obtained by means of the blast, the contents of



Apparatus for the Smelting of Iron Ore by the Natives of Rhodesia in South Africa

the "tray" are automatically fed to the fire. The blast is kept up incessantly by relays and each pair of natives get tired, from early morning till evening, when the bars are broken down and a large mass of red-hot metal is found to be fused together and mixed to a certain extent with charcoal. The outer part of this mass is broken off and the more or less pure iron is found in the center. This in turn is cut into smaller pieces which are again softened by fire and made into various articles such as axes, hoes, knives, spears, arrowheads, etc. In the foreground one can see a heap of charcoal. The hole through which the metal is withdrawn is shown.

The bellows are as ingenious as they are primitive. Imagine four large tobacco-pipe bowls leading to one stem. Antelope skin is tied over each bowl and to the center of each skin is attached a stick varying in length according to the purpose for which the bellows are used. The blast is obtained by a series of up and down movements of the stick, there being a certain amount of slackness allowed in tying on the skins. When the stick is sharply raised this draws air in through the stem, and the same is expelled by a similar downward thrust. Alternating these movements very quickly,

they can obtain a continuous blast and quickly raise iron to a white heat.

Belfont Iron Works Co. Meeting

At the semi-annual meeting of the Belfont Iron Works Co., held at its head offices in Ironton, Ohio, the following directors were elected: S. G. Gilfillan, John Peebles, A. C. Steece, W. P. Lewis, S. Coles Peebles, Charles Horn and L. R. Putnam. Mr. Putnam was elected to fill the vacancy caused by the death of S. B. Steece. The directors organized by electing the same officers as follows: President and general manager, S. G. Gilfillan; vice-president, John Peebles; secretary, J. R. Gilfillan; treasurer, C. W. Moulton, and superintendent of the mill department, I. A. Ryan.

Extensive improvements are being made at the company's plant under direction of Freyn, Brassert & Co., Chicago, that include remodeling of the blast furnace, increasing its capacity from 150 to 250 tons of pig iron per day.

Steel Plant Prospects in British Columbia

The British Columbia Advisory Committee for Scientific and Industrial Research has reported to the Research Council at Ottawa the preliminary results of an investigation into the possibilities of developing an iron and steel industry on the Pacific Coast. The general conclusion reached is that there is room for one large plant, provided it is assured of the whole Pacific Coast market, but that present economical conditions of manufacturing and marketing preclude the establishment of more than one plant. No large quantities of iron ore have been so far blocked out at any one place in British Columbia. There are now two rolling mills operating in the province using scrap iron and

steel, and there is a prospect of starting an electric smelting furnace for the magnetic iron ores on a comparatively small scale in connection with other electrochemical industries.

Bridgeport Companies Combine

Announcement is made of the merger of the Hawthorne Mfg. Co. and the Hamilton & De Loss, Inc., under the former name, with a capitalization of \$1,500,000. The two companies have manufactured in their Bridgeport, Conn., plants bicycle and motorcycle lamps, spotlights, headlights, special metal goods, hollow ware, etc. The machinery of the Hawthorne plant will be removed to the new factory, which is on a 7-acre site in Fairfield. Officers of the company are E. W. Bassick, chairman of the board; H. H. De Loss, president; H. H. Hamilton and E. A. Hawthorne, vice-presidents; H. H. De Loss, treasurer; A. D. Sullivan, assistant treasurer; E. Horace Hawthorne, secretary.

Six or seven parts of anthracite dust to one of bituminous coal makes a fuel that burns well, it is stated in *Power*. Increasing the proportion of soft coal makes a quick fire, but produces more smoke. Excellent results can be obtained with 25 to 30 per cent of small-sized anthracite and 70 to 75 per cent of soft coal. The mixture will give a hot fire, but will produce some smoke. A mixture of half-and-half fine anthracite and bituminous coal can be successfully burned in a furnace having a good draft. It is important to mix the coal thoroughly before firing.

The Law Relating to the Use of Tools

Rule of the Simple Tool and Its Application—The Employer's Duty of Inspection Limited—Important Exceptions

BY CHESLA C. SHERLOCK*

IT is a fundamental rule of the common law that the employer is bound to furnish the workman with a safe place in which to work and with reasonably safe tools and appliances. But there is a rule, known as the "simple tool rule," which does not hold the employer liable if such tools as are furnished are suitable for the work done, nor is the employer bound to inspect them to discover such defects.

The Basic Legal Aspect

This apparent conflict in the law is based upon the assumption that the employer is not bound to discover something which is understood by all and noticeable to all. A simple tool is so well known to all and its use so well understood that the employer cannot be charged with any defect in them, so long as such tools are of the "simple" class.

In Arkansas the rule was applied, when the court held that injuries caused by a workman striking two hatchets together so that a piece of steel chipped off and lodged in his eye could not be charged to the employer.

A workman in Colorado was straightening the rim of a kettle with a hammer, and was injured by a piece of the hammer breaking off and lodging in his eye. It was claimed that the defendant company through its foreman negligently and carelessly ordered and directed the plaintiff to lay aside a wooden hammer which he had previously been using and use in its place a steel hammer, thereby causing him to use one steel hammer against another in the straightening of the rim. It was held by the court that it was unlikely that this special order could change the established method of doing the work, and that the employer was not liable.

When Inspection Is Prescribed

In a Kentucky case a workman was injured by a spike maul and claw bar, the employer being held not liable, "as plaintiff's own evidence showed that he knew the condition of the claw bar, and so knowing, made the stroke which resulted in the injury to himself, the fact must be given the same effect as if the duty of inspection had rested upon him; that in any event there was no duty of inspection upon the part of the master and consequently no negligence."

The rule was applied in a Louisiana case, where it was shown that a sledgehammer had been supplied to a workman and that its only defect was that it was heavier than was necessary for the work to be done.

An employer in a Maine case was held not bound to inspect a cold chisel which was used to cut off rivets, and therefore not liable to a servant who was injured by a piece of steel which broke from the head of the chisel when he struck it, and flew in his eye. The plaintiff was working with another workman, one holding the chisel and the other striking it with the hammer and then reversing.

The court held that it was not the duty of the employer to warn workmen against the danger of

flying chips of steel or iron, in view of their experience and intelligence. It was further held that the duty of the employer was not changed by the fact that a committee of workmen had waited on the employer and complained to him of the defective condition of the tools and appliances, including the chisel, but no particular defect had been pointed out. Since it did not appear that any particular defect had been brought to the employer's attention, or that he had promised to repair the tools, his ordinary liability under the simple tool rule was not changed; hence he was not liable.

Simple Tools

In a Tennessee case a cleaver having a sharp edge and a hammer head was used by workmen in cutting iron rods. It was a simple tool, in the opinion of the court, so that the employer could not be liable for injuries resulting from the cleaver flying from its handle when used by another workman and striking the plaintiff.

It was shown to be an ordinary rule in the shop not to fasten the handle of the cleaver tightly because of the difficulty in removing it when the cleaver was to be sharpened. Although it was not necessary to use the cleaver as a hammer, the workmen frequently did use it in this manner after the cutting was done in knocking the pieces of metal apart, and this was done under the eye of the vice-principal, who raised no objection.

In Wisconsin it has been held that a hatchet and a maul are simple tools.

The simple tool rule is invariably applied in cases of injury to workmen resulting from the use of simple tools. This means that no matter how the injury may arise, the employer, under the common law, cannot be held responsible for it if the injury was due to the use of simple tools.

In a Texas case a workman was injured by a piece of iron flying off a hammer used by another workman. The court stated that it was a correct proposition that a simple tool, like a hammer or a nail, does not impose upon the employer the duty of inspection, but added that the question in this case is whether the employer used ordinary care in furnishing safe appliances under the circumstances of the case for the work to be done.

The simple tool rule, however, is not always strictly applied to all cases. It was not applied in a Missouri case where a workman was injured by a flying piece of metal which came off the battered end of a chisel, striking him in the eye and practically destroying the sight.

It was held by the court that the plaintiff was not handling any of the instruments being used in the work, and that he was performing a service apart from the operation of the tools. It is worth while to note that in this case the workman was injured by a chip flying from a tool in the hands of another workman.

Exceptions

There are some exceptions to the rule which employers can well afford to consider, for in these exceptions do the courts almost uniformly permit

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recovery against them, even though the agency of the accident be a simple tool.

In the first place, if the employer knows of a defect in a tool which he furnishes to a workman, and the workman does not know of it, the employer is liable for any injuries resulting.

It is the duty of the employer to exercise ordinary care to provide reasonably safe tools and appliances, and it applies to simple as well as complicated tools. The distinction, it should be observed, is in the duty of inspection, the employer owing no duty of inspection in the case of simple tools.

But if the employer had actual knowledge of a defect in a simple tool, and the injured workman had no knowledge, the employer is liable for exposing the workman to a peril unknown to him, and must, of course, respond in damages.

In cases where the workman has directed the attention of the employer to the defective condition of tools, and he has directed the workman to go ahead and use them until they can be replaced or repaired, the question of whether the workman has voluntarily and negligently continued to use said defective tools or appliances is a question of fact for the jury to determine, according to the view of the Oklahoma court.

In Texas, it was held that if the workman has had no opportunity in which to inspect a simple tool before using it, the employer will be liable for furnishing him a defective one.

As to just what tools are simple tools, as a matter of law, it is impossible to say. As a rule, however, the expression will be given its ordinary meaning and the courts as a rule so construe it. A simple tool may be said to be any ordinary tool which is not complicated in nature and which is used in simple ordinary work as distinguished from complicated or intricate work.

Such matters can be determined only by consulting State authorities, as the courts are largely governed by the circumstances surrounding each case

and consequently disagree in many specific instances.

It is safe to say that any tool requiring inspection is not a simple tool. A chisel, for instance, which must be carefully inspected and selected in order to perform the intended work is not a simple tool. The Wisconsin court has said that "furnishing an employee a stepladder is furnishing him a place whereon to stand. It is a place, or appliance, not a tool."

We have found, then, that employers owe no duty of inspection in the case of simple tools and that they are not liable for injuries caused when such tools chance to be defective.

We have also found certain classes of exceptions in which the "simple tool rule" does not obtain, and in which the employer becomes liable for injuries sustained.

Digest

These instances may be briefly classified as follows:

1. Where the employer knows of the defect.
2. Where the workman is injured by a simple tool not in his hands, but in the hands of other workmen, and where he is performing a service apart from the operation of the tools.
3. Where the workman has no time in which to inspect a tool before using it, the employer will be liable for furnishing him with a tool in defective condition.

It should, above all else, be kept in mind that the primary duty owed workmen by the employer is to furnish reasonably safe tools and appliances with which to work, and that this duty applies to simple tools as well as to complicated tools.

The distinction lies in this point: That the employer is not bound to inspect the simple tools and if an accident happens because of their defective condition *after furnishing them* he cannot be held liable, because no duty of inspection rests upon him.

Absorbs Dayton Pneumatic Tool Co.

The Duntley-Dayton Co. has taken over the entire output of the Dayton Pneumatic Tool Co., Dayton, Ohio, and announced its entry into the pneumatic tool field. W. O. Duntley, former president of the Chicago Pneumatic Tool Co., is president of the new company, and his son, Capt. C. A. Duntley, is vice-president. Capt. Duntley has not yet been relieved of his command in the Twenty-seventh U. S. Field Artillery. In addition to handling the output of the Dayton Pneumatic Tool Co., the Duntley organization is putting out a complete line of portable electric drills and grinders, as well as a full line of accessories, such as hose and hose couplings, rivet sets and chisel blanks.

The offices of the Duntley-Dayton Co. are located on the fourteenth floor of the Westminster Building, Chicago. The Eastern offices are located at 295 Fifth Avenue, New York, and the Philadelphia branch is in the Commercial Trust Building, that city.

Baldwin Locomotive War Contracts

The Baldwin Locomotive Works and its associated companies, Standard Steel Works Co., Eddystone Ammunition Corporation and Eddystone Munitions Co., executed war contracts to the approximate value of \$250,000,000. The material supplied consisted chiefly of locomotives, shells, other munitions and gun mounts. The first named comprised 3246 broad gage steam, 1146 narrow gage steam, 20 broad gage gasoline, 1139 narrow gage gasoline. The first war orders were for France and Russia in 1914, the former Government ordering 280 locomotives of 60 centimeters gage, and

the latter wishing heavy freight engines of 5 ft. gage, and 350 light gasoline locomotives for trench service, popular because they made no smoke to reveal their presence to the enemy.

For the British the Baldwin Works built 960 locomotives. When the United States entered the war, the company built the "Pershing engines," the rate of production at the signing of the armistice being 300 a month. A new undertaking was the manufacture of gun mounts, the first five ordered being for railway service and carrying 14-in. rifles. They also constructed a number of railway trucks for gun and howitzer mounts and 7-in. caterpillar mounts for the navy.

The Abell-Howe Co., Chicago, has established an office at Philadelphia, in the Bourse, where in addition to handling its own products including American high speed chain, Howe trucks and malleable castings, it will represent the Northern Engineering Works. R. E. Stuntz, formerly at Chicago, will be in charge and will be assisted in the Eastern territory by W. E. Petty, located at the New York office, 30 Church Street.

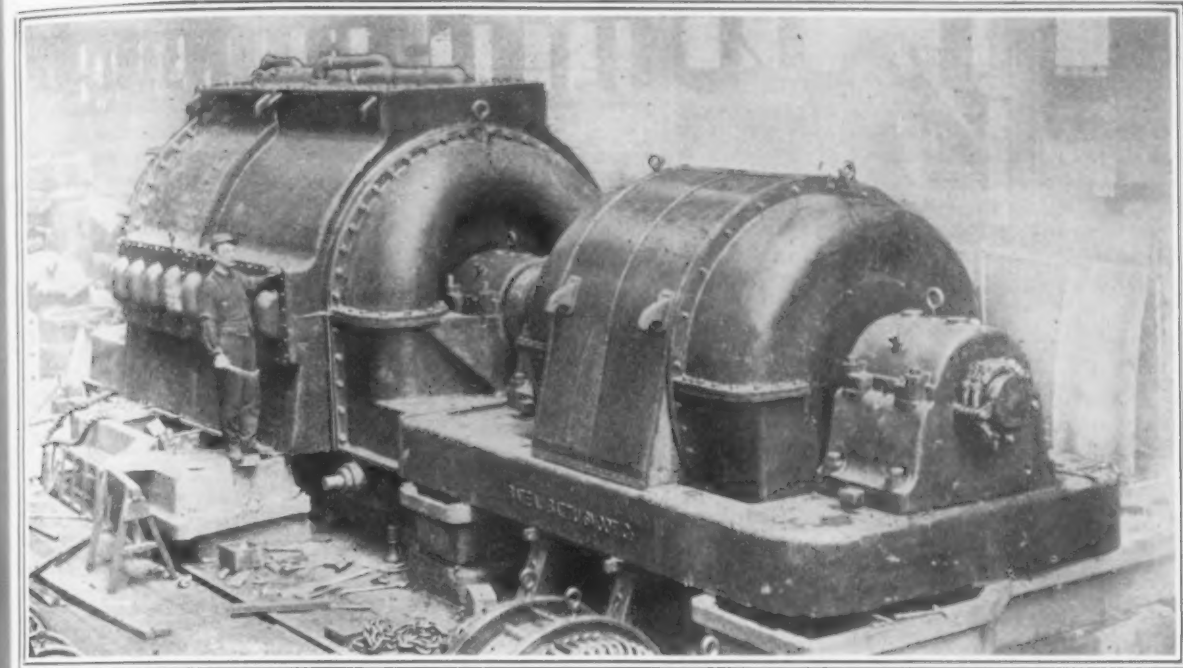
At the recent annual meeting of the American Institute of Weights and Measures, the council was re-elected, excepting Dr. Goss, who resigned. The election of Stephen C. Mason and John Kirby, Jr., president and past president, respectively, of the National Association of Manufacturers, filled two of the three existing vacancies. The officers of the institute were also re-elected. F. A. Halsey, 20 Vesey Street, New York, is the commissioner.

A LARGE TURBO BLOWER

Supplies Large Volume of Air at a Low Speed for Copper Smelting

What is perhaps the largest turbo blower yet constructed has now been in service for some time at Copper Cliff, Ont., at the plant of the International Nickel Co. The machine is driven by a self-starting synchronous

motor, running at a speed of 1500 r.p.m. on 25 cycle, 3 phase, alternating current. The motor is direct-connected to the turbo blower, which is an eight stage machine with casing completely water jacketed.



The Large Size of This Blower Is Due More to the Low Speed than to the Power of the Machine

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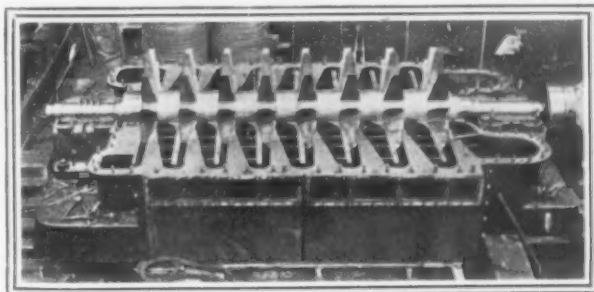
The blower compresses 42,000 cu. ft. of air per min. to a pressure of 14 lb. per sq. in. The machine is equipped with a constant pressure or volume regulator, which causes the blower to deliver at a constant and adjustable pressure and which may be connected to deliver air at a constant and adjustable volume.

The exceedingly large size of the blower is due more to the low speed, 1500 r.p.m., than to the power of the machine, and if driven up to a speed for which it is amply strong it would have some 6000 or 7000-hp. capacity. As it is, when running at 1500 r.p.m., the machine absorbs approximately 2500 hp. The shipping weight is approximately 350,000 lb.

to create end thrust. The entire impeller is located with reference to proper clearance to the casing by comparatively small thrust collars carried in one of the supporting journals. The row of large rectangular openings along the side of the blower casing gives access to the water cooling jacket, which completely encircles the air end casing.

The 2000-kw. motor which drives this unit can be started without taking from the line more than approximately its full load kva. rating and requires no auxiliary starting apparatus other than the usual auto transformers and switchboard equipment.

Both motor and blower bearings are lubricated with centrifugal oil pumps, directly connected to small motors, two of which are provided and continuously operated, while one pump alone is of ample capacity to supply the machine with lubricating and cooling oils.



Top Half of Blower with Casing Removed to Show the Eight Stage Shaft. The suction head is to the right of the shaft, and the discharge volute at the left

provided and continuously operated, while one pump alone is of ample capacity to supply the machine with lubricating and cooling oils.

Rest Periods for Industrial Workers

Rest periods during the work-spell for industrial workers are retained by about a fourth of the employers who try them out, according to information given out by the National Industrial Conference Board, 15 Beacon Street, Boston. Of 388 employers who introduced them, only 89 retained them as practical. Some employers maintained that they were not needed since pauses in production came perforce. The general opinion is that regular rest periods are advantageous chiefly for monotonous occupations, or those requiring much concentration or severe physical exertion, with

little opportunity for change of posture; or for those where ventilation is poor. Among the advantages of regular periods are the elimination of time waste by putting a stop to irregular pauses, improvement of discipline, cultivation of regular habits. For certain occupations they may be desirable from standpoint of health, and may be made advantageous from standpoint of production.

The Gillette Rubber Co., Eau Claire, Wis., manufacturer of safety tires and tubes, has taken over the Eau Claire Mfg. Co., that city, for the purpose of manufacturing machinery and equipment for the trade.

WAR CLAIMS BOARD

New Body Will Help in Adjusting Claims—Revised Estimate of Surplus

WASHINGTON, Feb. 11.—While waiting for Congress to complete its task of compromising the differences between the two houses on the "contractors' relief bill," the War Department has announced the creation of a "War Department Claims Board," which is to supervise and co-ordinate the work of the various War Department agencies that are engaged in the settlement of claims. These cover all disagreements arising over the termination of contracts as well as other procurement obligations, and the board is to have the power to authorize and approve such settlements. This will make it one of the most important Government bodies in Washington. Members of this board are to sit with the various Bureau Boards of Contract Adjustment, so as to scrutinize these adjustments while they are being made by the bureau authorities. It is planned, in this way, to avoid the necessity of carrying all claims to the departmental claims board, and thus to require the latter to pass only upon adjustments that involve matters of fundamental policy or of overshadowing importance and difficulty.

The members of the new board are:

Benedict Crowell, Assistant Secretary of War and Director of Munitions, president; G. H. Dorr, Assistant Director of Munitions; Brig.-Gen. George W. Burr, Assistant Director of Purchase, Storage and Traffic; Brig.-Gen. Herbert M. Lord, Director of Finance; Lieut.-Col. Herbert H. Lehman, Assistant to the Director of Purchase, Storage and Traffic.

Besides these, the following special members will sit with the various bureau boards of claims:

Col. C. A. McKenney for contracts and obligations of the Purchase, Storage and Traffic Division; W. H. Davis for the Ordnance Department; Major H. L. Goodhart for the Chemical Warfare Service, Medical Corps and Signal Corps; Major Harry D. Rawson and Capt. Arthur Day for other assignments.

Major Erskine Bains is to be the recorder of the Claims Board. At the same time the following Board of Contract Adjustment was announced: Lieut.-Col. Herbert H. Lehman, Assistant Director of Purchase, Storage and Traffic; Lieut.-Col. E. F. Malone and Lieut.-Col. C. B. Garnett.

This board is to pass on the questions of contract adjustment on which the contractor and the local and bureau boards of the department have been unable to reach an agreement.

War Department Assignments

The War Department also announced the following assignment of jurisdiction to sectional claim boards:

Under Ordnance Department Claims Board comes: District Boards, Pittsburgh, New York, Chicago, Cincinnati, Cleveland, Philadelphia, Boston, Rochester, Detroit, St. Louis, Bridgeport, Baltimore.

Under Purchase and Storage, Director of Purchase, Corps of Engineers Claims Board; Construction Division Claims Board; Signal Corps Claims Board, comes: Board of Review, Medical and Hospital Supplies Division; Board of Review, Machinery and Engineering Materials Division; Board of Review, Miscellaneous Division; zone supply boards, Boston, New York, Philadelphia, Baltimore, Atlanta, Jeffersonville, Chicago, St. Louis, New Orleans, San Antonio, Omaha, El Paso, San Francisco.

Under Chemical Warfare Service Claims Board and Air Service Claims Board, comes: Gas Defense Board, New York; Gas Defense Board, Edgewood Arsenal; Gas Development Division, Cleveland; Board of Review, Aircraft Production; and Board of Review, Military Aeronautics.

The disposition of the surplus property of the War Department is progressing slowly. Even the inventories have not yet been completed. Lieut.-Col. A. LaMar, in charge of the Machine Tool Division, was taken ill during the latter part of last week, so no announcement of the final inventories could be made by that section. It was stated, however, that the figures now have dwindled down to the \$30,000,000 mark, with \$50,-

000,000 as the outside figure. That is a large reduction from the feverish predictions of \$200,000,000 to \$300,000,000 ventured about a month ago by individuals who claimed to have inside knowledge.

Sale of Copper Stopped

Because of the general demoralization of the copper market, the office of the Director of Sales issued a peremptory order last Friday against the further sale of copper and brass in any form—scrap as well as new material—by any division of the War Department. A special conference will be held some time this week to work out a policy to govern this question.

It is the plan of the division to make public weekly all sales of every kind made through the office of the Director of Sales as well as by the department. Last week the division approved the sale of 59 cranes to the French High Commission for the French Government. These cranes, however, were not inventoried in the list printed two weeks ago by the IRON AGE. Some of them were already in France while others were packed and ready for overseas shipment.

The Construction Division of the War Department has been authorized to offer for sale the picric acid plant at Brunswick, Ga., representing an investment of \$3,097,400, and the excess facilities at the Marlin-Rockwell plant at Port Penn, Del., which involved an outlay of \$600,000.

The Belgian Government has asked the United States to loan it 400 locomotives and 2000 passenger cars, besides returning to it 359 locomotives which were loaned to our expeditionary forces.

O. F. S.

German Belting Substitutes

Lack of leather for driving belts and oil for lubrication caused the Germans to invent curious substitutes, according to the War Trade Intelligence Department of Great Britain, who have been investigating their enemy's secrets. Belts were made of paper tissue or hair yarn. If very strong yarn was used in chain-stitch only one layer was required, whereas weaker yarn had to be twisted together in several layers. It was advisable to edge the belt with leather or tin, otherwise the edges wore away rapidly.

Driving belts made of tissues sewed together or rolled inside one another were found exceedingly resistant and stronger in the edges. The friction was slight and they could be mended easily. This kind was made mostly of spun flax, hemp, or paper yarn. Those of the last kind, which were plaited or knitted, had no transversal threads which made the edges strong. Cellulose material was used for medium-sized machinery, but care had to be taken in putting them on, and not to pull them too tight for they could not resist much tension. The yarn belts were also woven or knitted in tube form, which was flattened out afterward and sewed together; cotton or paper was used mostly in such cases. They proved very useful substitutes for leather.

The Textilose-Epata belts consisted of separately twisted jute or cotton threads. They proved to have great flexibility and elasticity, each fibre bore a part of the tension, and there was no giving away at the edges.

The former rubber and balata belts have given place to ones of substitute rubber. The newer material proved to resist melting when heat was caused by friction. The main drawback was that it could not stand much tension.

At the Leipzig exhibition a new belt was shown comprising the following: the chain made of horse-hair or wire; the cross thread of old cotton, typha, or peat fibre, the belt so formed being thickened with tar. These driving belts were only supplied retail in exchange for a form testifying to the need of them.

In a wool weaving works, it was reported, the thick canvas driving belts, which substituted leather ones, had been found satisfactory since they did not suffer any more breakages than leather. However, they could not be repaired so often.

Rapid Operating Gas Reversing Valve

In the operation of any gas fired furnace, it is highly desirable that the valve controlling the direction of the flow of gas shall operate rapidly and easily. These factors have been kept in mind in designing a new gas reversing valve placed upon the market by the Wellman-Seaver-Morgan Co., Cleveland. That the conditions have been met is evidenced by the fact that a 26-in. hand operated valve can be reversed in from 3 sec. to 7½ sec. with a pressure of not over 25 lb. This is accomplished by a perfectly balanced hood and counterweights. An equally important feature is the placing of the operating mechanism outside of the casing where it is easily accessible and always cool.

This new valve is similar in principle to the well known Porter valve and is interchangeable as to ports and clearances. It consists of an outer casing, a base with three ports, a hood to connect two ports, and the operating mechanism. The center port is connected to the chimney. Waste gases from the furnace flow from whichever outside port the hood is covering to the chimney port. This leaves a clear passage for the fuel gas or the air entering the casing through the mushroom valve at the top to pass through the third port to the furnace generator. Reversal of the flow of gas or air is accomplished by moving the hood to a position over the center port and the one previously uncovered.

The base of the valve is a cast iron rectangular pan with three walled circular openings or ports. The hood which covers the center and one end port is semi-elliptic in form and made of steel plates with angles at the bottom to support a fire brick lining. This semi-elliptical form allows free flow of the gas, as there are no abrupt turns or constricted areas in the passage formed by the ports and hood, a very important feature in

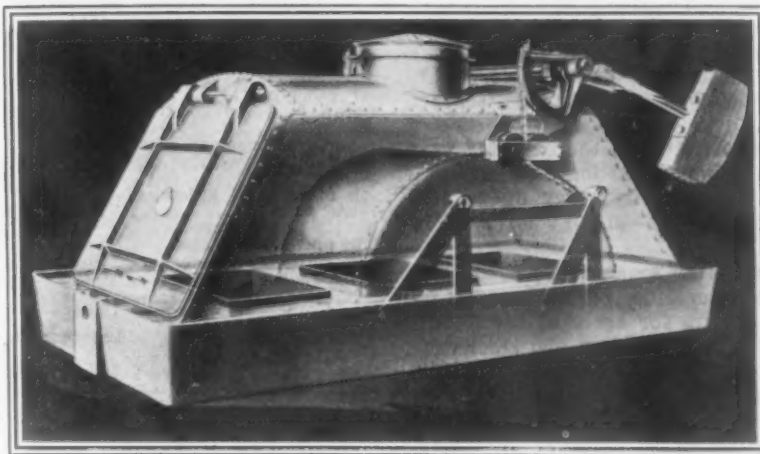
obtaining maximum efficiency from the stack draft.

The base pan holds a quantity of water so that when the hood is over the ports a water seal is formed to prevent the escape of gas. The base pan has a tapped hole at each end for a water pipe. There is a perforated strainer at the intake end and a dam plate at the other end to hold the water at such a level as to allow the hood to extend 3 in. into the water. Such a seal does away with all packing, tightening and adjusting, the only attention required being the flow of a small quantity of water into the bed plate to replace the amount evaporated.

The outer casing is made of steel plate and lined with fire brick. It has cast iron door frames and a door at each end through which the hood may be removed or inserted. Each door has a small peek hole with a swinging cover which enables inspection at any time.

On the top of the casing is a cast iron neck which connects either with the fuel gas flue or the air intake, depending upon the purpose for which the valve is used.

The hood is moved by a series of levers and coupling shafts which extend through the water under the casing and into sockets on the hood. The shafts move on chilled iron bearings. The operating mechanism is actuated by a hand



This 26-In. Hand Operated Gas Reversing Valve Can Be Reversed in From 3 to 7½ Sec. with a Pressure of 25 Lb.

lever. At each side of the valve is a counterweight attached to an arm and sector over which passes a chain connecting with the supports of the hood. The form of this sector is such that the counterweights balance the weight of the hood at any position, so to move the hood it is only necessary to exert enough force to overcome friction. This is an important feature in hand operated valves.

Due to its compactness, the valve requires comparatively little floor space and adapts itself to various arrangements of flues from the regenerators to the stack.

Campaign for Better Packing

A nation-wide campaign to put an end to the waste attributed to inadequate packing, wrapping and marking of express shipments has been inaugurated by the American Railway Express Co., which is handling the express business on practically all the railroads of the country. It is expected that by remedying this evil, it will be possible to bring about a marked improvement of the express service throughout the country.

A "Better Service Campaign," the success of which will depend largely upon the co-operation of the shipping public, was started Feb. 10, in every city and town in the country. No new packing or marking rules have been adopted for the campaign, but express drivers and receiving clerks in the larger cities, as well as express agents in the smaller points, have been instructed to request that the rules already in force be more carefully observed.

A determined effort will be made during the campaign to eradicate what is known as the "no mark" evil. From July 1 to Nov. 30 of last year, 127,859 shipments, an average of about 25,500 a month, were turned over to the "no mark" bureaus maintained by the company, because all means of identification of either shipper or consignee had been lost, and delivery, except in a few cases, made impossible.

Course in Production Methods

A course in production methods, consisting of 12 lessons over a three-months' period, has been inaugurated by the Twenty-third Street Young Men's Christian Association, 215 West Twenty-third Street, New York. It is being conducted by W. F. Kemble, under the auspices of the Business Training Corporation, New York. John Calder, M. E., vice-president Arthur Knapp Engineering Corporation, New York, is director of the course. It will include the aspects of: Team work, handling men, organization, machinery and materials, production records and management. A fee of \$40 will cover instructions, text books, etc.

Shoe soles with metal coverings were made by Germans during the war. Leather, cardboard, or wooden soles were covered with aluminum or iron, not more than 0.01 mm. thick. The weight was the same, but they lost flexibility, became more solid and quite water-tight.

The name of the Guerber Engineering Co., Bethlehem, Pa., has been changed to the Bethlehem Fabricators, Inc. No other change in the company has been made.

Iron and Steel Exports Show Sharp Decline

Cessation of Hostilities in Europe Reflected in Foreign Commerce—Lack of Ships and Unsettled Conditions Are Important Factors

WASHINGTON, Feb. 11—Following the cessation of hostilities, the exports of iron and steel from the United States continue to decline. The December figures which have now been compiled by the Bureau of Foreign and Domestic Commerce reveal the fact that chiefly because of a lack of ships and of unsettled foreign markets the December totals are below those of November and the figures for the calendar year 1918 are far below those of the calendar year 1917.

In December, 1918, the total exports of iron and steel were valued at \$75,120,063, against \$89,551,487 in November, 1918. The comparison with the figures for a year ago, however, is much more unfavorable, for in December, 1917, the exports of iron and steel reached a total of \$119,201,841.

The exports of iron and steel in the calendar year 1918 barely passed the billion dollar mark—reaching a total of \$1,036,092,555. A year ago they aggregated almost one and a quarter billion—\$1,241,960,102, to be exact.

The tonnage figures of the exports are even more disappointing than the valuations, partly because increased prices have made up for some of the deficit. In December, 1918, 357,703 tons of iron and steel were sent abroad, against 448,716 tons in November, 1918, and 656,044 in December, 1917. The calendar year statistics show a total for 1918 of only 5,338,037 gross tons, against 6,227,737 tons in the calendar year 1917. The only item of moment which showed an increase of exports in December, 1918, against the figures of the corresponding month of 1917 were steel plates, which totaled 62,591 gross tons, against 45,299 in December, 1917. In the figures for the calendar year steel plates, tin and terne plates and barbed wire were the only items to show increases, but they were so small as to be

almost negligible and were easily wiped out by the overwhelming deficit in every other line.

The slump in barbed wire exports was exceedingly interesting because it revealed dramatically the cessation of warfare. In October, 1918, we sent abroad, chiefly to France and Italy, 29,305 gross tons of barbed wire. Despite the signing of the armistice, the Novem-

Imports of Iron and Steel

| | December | | Calendar Year | |
|------------------------------|------------|------------|---------------|------------|
| | 1917 | 1918 | 1917 | 1918 |
| | Gross Tons | Gross Tons | Gross Tons | Gross Tons |
| Ferromanganese | 2,959 | 177 | 45,381 | 2,710 |
| Ferrosilicon | 845 | 1,463 | 9,749 | 550 |
| All other pig iron | 1,339 | 30 | 21,865 | 200 |
| Scrap | 3,428 | 20,304 | 180,034 | 61,720 |
| Bar iron | 1 | 48 | 2,249 | 149 |
| Structural iron and steel | 777 | 112 | 6,916 | 3,004 |
| Steel billets without alloys | 1,738 | 2,595 | 35,860 | 21,821 |
| All other steel billets | 708 | 1,040 | 8,357 | 809 |
| Steel rails | 1,428 | 1,875 | 9,263 | 870 |
| Sheets and plates | 214 | 60 | 1,447 | 154 |
| Tin and terne plates | ..... | ..... | 124 | 2 |
| Tin scrap | 873 | 741 | 8,555 | 5,891 |
| Wire rods | 332 | ..... | 1,059 | 767 |
| Total | 14,642 | 28,445 | 329,922 | 179,702 |

Imports of Manganese Ore and Oxide

| | 1917 | 1918 |
|-------------------------|------------|------------|
| | Gross Tons | Gross Tons |
| Manganese ore and oxide | 30,540 | 21,424 |
| of | 629,972 | 491,301 |

ber totals were 23,190 tons. In December the figure faded to 4043 tons.

Machinery exports in December, 1918, were approximately one million dollars above the November figures, but four and a half million below those of the same month a year ago. In December, 1918, they totaled \$25,562,429, against \$24,570,538 in November, 1918, and \$30,051,092 in December, 1917. Up to December the machinery export figures for 1918 and 1917 were run-

Exports of Machinery

| | December | | Calendar Year | |
|---|--------------|--------------|---------------|---------------|
| | 1917 | 1918 | 1917 | 1918 |
| Adding machines | \$180,039 | \$136,425 | \$2,349,248 | \$1,974,230 |
| Air-compressing machinery | 172,625 | 281,261 | 1,199,319 | 2,894,718 |
| Brewers' machinery | 81,914 | 2,045 | 231,120 | 190,000 |
| Cash registers | 60,862 | 89,920 | 828,490 | 763,217 |
| Parts of | 7,043 | 5,555 | 79,924 | 101,254 |
| Concrete mixers | 237,054 | 20,106 | 1,554,388 | 915,207 |
| Cotton gins | 29,673 | 12,640 | 110,066 | 113,217 |
| Cream separators | 68,415 | 129,768 | 600,279 | 841,122 |
| Elevators and elevator machinery | 229,404 | 214,642 | 2,279,365 | 2,215,527 |
| Electric locomotives | 15,989 | 42,310 | 396,271 | 183,206 |
| Gas engines, stationary | 54,558 | 38,956 | 840,175 | 479,437 |
| Gasoline engines | 3,249,743 | 1,355,338 | 26,064,517 | 24,402,406 |
| Kerosene engines | 259,281 | 993,842 | 2,009,915 | 8,506,111 |
| Steam engines | 3,121,145 | 3,166,703 | 35,045,398 | 27,064,882 |
| All other engines | 311,184 | 405,988 | 3,655,458 | 5,410,421 |
| Parts of | ..... | ..... | ..... | ..... |
| Boilers | 297,021 | 333,862 | 2,482,172 | 4,115,007 |
| Boiler tubes | 278,381 | 660,416 | 4,772,515 | 6,400,725 |
| All other parts of engines | 1,705,183 | 3,124,480 | 24,420,256 | 24,420,256 |
| Excavating machinery | 260,445 | 96,772 | 1,274,961 | 1,274,961 |
| Milling machinery, flour and grist | 132,666 | 198,344 | 849,635 | 1,401,217 |
| Laundry machinery, power | 27,219 | 45,684 | 431,785 | 420,606 |
| All other | 61,210 | 39,511 | 298,888 | 269,126 |
| Lawn mowers | 15,711 | 30,355 | 247,752 | 209,330 |
| Metal-working machinery (including metal-working tools) | ..... | ..... | ..... | ..... |
| Lathes | 1,656,906 | 692,431 | 10,107,365 | 9,852,107 |
| Other machine tools | 1,013,442 | 796,534 | 5,459,100 | 11,626,100 |
| Sharpening and grinding machines | 489,768 | 381,967 | 3,287,488 | 6,161,575 |
| All other metal-working machinery | 1,490,209 | 1,526,405 | 13,066,468 | 23,978,124 |
| Meters, gas and water | 58,041 | 97,399 | 1,217,649 | 470,001 |
| Mining machinery, oil well | 169,700 | 237,288 | 1,747,405 | 2,759,240 |
| All other | 1,417,209 | 561,238 | 11,120,128 | 1,687,422 |
| Paper-mill machinery | 272,182 | 201,570 | 1,996,685 | 1,462,454 |
| Printing presses | 144,646 | 147,831 | 1,606,619 | 1,606,619 |
| Pumps and pumping machinery | 780,120 | 488,346 | 6,559,643 | 1,436,131 |
| Refrigerating and ice-making machinery | 197,493 | 79,214 | 1,324,023 | 608,810 |
| Road-making machinery | 29,867 | 122,242 | 244,944 | 697,102 |
| Sewing machines | 745,805 | 820,356 | 8,137,482 | 8,138,100 |
| Shoe machinery | 186,256 | 178,696 | 1,662,892 | 1,878,835 |
| Sugar-mill machinery | 2,321,845 | 1,322,039 | 11,471,779 | 9,468,311 |
| Textile machinery | 546,333 | 735,696 | 4,056,880 | 7,266,607 |
| Typesetting machines | 108,285 | 84,360 | 1,300,677 | 7,049,230 |
| Typewriting machines | 657,446 | 513,564 | 9,377,768 | 772,000 |
| Windmills | 164,854 | 52,919 | 1,213,836 | 1,154,749 |
| Woodworking machinery, saw mill | 136,287 | 139,823 | 707,535 | 1,049,336 |
| All other | 81,422 | 91,854 | 1,066,794 | 42,285,881 |
| All other machinery | 5,344,312 | 3,676,249 | 43,019,073 | 282,974,707 |
| Total | \$30,051,092 | \$25,562,429 | \$287,623,962 | \$282,974,707 |

a Not separately enumerated prior to July 1, 1917.

b Six months ending June 30, 1917.

ing neck and neck. But the December deficit leaves the year's total almost five million dollars behind that of 1917. The statistics show a total of \$282,974,797 of machinery exports in the calendar year 1918, against \$287,623,962 for the year before. The figures for imports of iron and steel reveal a considerable recovery in December, 1918, although they were still far from being enough to make up for the big slump of the war months of the year. The total of the iron and steel items in December, 1918, was 28,445 gross tons, as against 10,830 tons in November, 1918, and 14,642 tons in December, 1917. For the calendar year the 1918

future policy that it has decided to suspend work on all vessels, the progress of which justifies the assumption that they can either be canceled, or have other vessels substituted for them with the minimum of expense.

"This step was by no means a radical one, because of the total program of 10,000,000 tons of steel ships still incomplete. The suspension orders apply to not more than 15 per cent, and do not affect any vessels that will result in any material slowing down of the operations of any of the yards for six months or more.

"The Board of Trustees have already expressed themselves as being in favor of a material improvement in the cost of production and this can only be done by reducing the number of men in the yards to a point where they can be profitably and economically employed. Heretofore, cost has been entirely subordinated to speed; hereafter, the yards will be asked to operate on exactly the same basis they would if they were in active and keen competition for business. Even with such suspensions as are at present contemplated, there will remain volume enough in most yards to keep them busy under normal speed for from 12 to 18 months. In the meantime, the Shipping Board and the board of trustees of the Fleet Corporation can determine questions of policy; determine the character of vessels that will prove profitable additions to the merchant fleet, and decide the question whether, under the appropriations thus far made and the authority granted, they are justified in substituting new types of vessels for those suspended."

Exports of Iron and Steel

| | December | | Calendar Year | |
|--|-----------------------|-----------------------|-----------------------|-----------------------|
| | 1917 Gross Tons | 1918 Gross Tons | 1917 Gross Tons | 1918 Gross Tons |
| Pig iron | 811 | 11 | 6377,094 | 3,577 |
| Permanently | a1,035 | 472 | a5,468 | 4,107 |
| Ferrosilicon | a64,727 | 24,094 | a265,840 | 261,843 |
| All other pig iron | 357 | 31 | 150,560 | 2,160 |
| Scrap | 6,919 | 10,167 | 56,332 | 63,327 |
| Bar iron | 20,759 | 11,749 | 181,949 | 149,522 |
| Wire rods | 78,571 | 39,002 | 626,466 | 579,149 |
| Steel bars | 204,555 | 63,890 | 2,013,459 | 1,786,189 |
| Billets, ingots and blooms | 4,365 | 3,231 | 214,876 | 26,327 |
| Boils and bolls | 7,343 | 3,800 | 58,876 | 50,781 |
| Hoops and bands | 759 | 99 | 8,491 | 2,767 |
| Horsehoes | 617 | 252 | 4,537 | 3,824 |
| Cut nails | 16,830 | 5,717 | 114,764 | 78,727 |
| Wire nails | a418 | ..... | a1,800 | ..... |
| Wood screws | 1,681 | 958 | 19,347 | 11,788 |
| All other nails, including | 7,446 | 1,708 | 78,029 | 55,966 |
| Cast-iron pipes and fittings | 9,093 | 7,991 | 128,089 | 89,976 |
| Wrought pipes and fittings | 430 | 461 | 5,201 | 2,861 |
| Boilers and cast-iron | 1,285 | 763 | 21,179 | 10,057 |
| Refracting boilers | 50,935 | 44,982 | 510,439 | 453,566 |
| Galvanized iron sheets and plates | 6,981 | 3,997 | 86,485 | 68,739 |
| All other iron sheets and plates | 8,826 | 1,858 | 62,237 | 40,756 |
| Steel plates | 45,299 | 62,591 | 530,866 | 551,565 |
| Steel sheets | 23,776 | 10,128 | 157,363 | 163,420 |
| Ship and tank plates, punched and shaped | a1,173 | 1,109 | a13,254 | 29,722 |
| Structural iron and steel | 34,567 | 28,045 | 296,968 | 232,714 |
| Thin and thin plates | 24,026 | 14,641 | 188,676 | 222,448 |
| Barb wire | 14,907 | 4,043 | 192,404 | 235,082 |
| All other wire | 17,053 | 11,913 | 192,434 | 157,275 |
| Total | 656,044 | 357,703 | 6,227,737 | 5,338,037 |

a Not separately enumerated prior to July 1, 1917.
b Six months ending June 30, 1917.

figures were 179,702 gross tons, against 329,922 gross tons in 1917.

The importation of manganese ore and oxide of manganese dropped heavily. It aggregated only 21,424 gross tons in December, 1918, against 38,580 in November, 1918, and 30,540 tons in December, 1917. This left the figures for the calendar year considerably below those of 1917. The total for 1918 was 491,303 gross tons, against 629,972 tons in 1917.

To Revise Ship Construction Program

Director General Piez of the Emergency Fleet Corporation has made the following announcement:

"The Fleet Corporation is at present engaged in a thorough survey of its entire construction program for the purpose of determining whether the vessels now under construction will be desirable elements of the future American merchant marine. The executives of the Fleet Corporation are being aided in this review by a committee of prominent shippers, especially appointed by the board of directors.

"During the emergency, the Fleet Corporation built all the vessels it could, and selected types not because they might prove ultimately useful, but because they could be readily and quickly constructed by existing yards. The suggestion has been made that the Fleet Corporation has built too many small tonnage vessels and not enough vessels of large tonnage and greater sea speed. As this criticism is justified, the board decided several months ago to slow up its production of ships in order to afford an opportunity for a revision of its program, if, after investigation, such revision appeared justifiable. The board is also conscious of the necessity of a complete review and determination of its

Manufacturers of Foundry Equipment Organize

The temporary association of foundry equipment manufacturers, effected at the Milwaukee convention last October, at the request of the War Industries Board, to appoint a war service committee to represent the industry, at a meeting at the William Penn Hotel in Pittsburgh, on Tuesday, Jan. 4, decided to continue the organization in permanent form. It will be known as the Foundry Equipment Manufacturers' Association and starts off with 25 members. The association was in session the entire day, and took all the necessary steps to complete its organization.

The executive committee chosen consists of Vernon E. Minich of the Sand Mixing Machinery Co., New York; James T. Lee, Vulcan Engineering Sales Co., Chicago; F. G. Smith, Cleveland-Osborne Co., Cleveland; R. H. Bourne, Whiting Foundry Equipment Co., Harvey, Ill.; and Elmer E. Rich, Rich Foundry Equipment Co., Chicago. The officers are Vernon E. Minich, president; F. G. Smith, vice-president, and A. O. Backert, secretary and treasurer.

To foster better trade practices, to reform abuses existing or arising in the trade, to diffuse reliable and accurate trade information, to eliminate excessive costs due to unnecessary multiplicity of styles and types of equipment, and to lend full strength toward co-operating with other business associations with an idea of improving, strengthening and stabilizing the business interests of the country, are the objects of the new organization.

The following named companies are members of the new organization: Champion Foundry & Machine Co., Chicago; Berkshire Mfg. Co., Cleveland; Dayton Molding & Machine Co., Dayton, Ohio; American Molding Machine Co., Terra Haute, Ind.; International Molding Machine Co., Chicago; Cleveland-Osborne Mfg. Co., Cleveland; E. J. Woodson Co., Detroit; Arcade Mfg. Co., Freeport, Ill.; Vulcan Engineering Sales Co., Chicago; Grimes Molding Machine Co., Detroit; Buch Foundry Equipment Co., York, Pa.; United States Molding Machine Co., Cleveland; Sand Mixing Machine Co., New York City; Rich Foundry & Equipment Co., Chicago; New Haven Sand Blast Corporation, New Haven, Conn.; Pangborn Corporation, Hagerstown, Md.; J. W. Paxson Co., Philadelphia; McLeod Co., Cincinnati; Blystone Mfg. Co., Cambridge Springs, Pa.; National Engineering Co., Chicago; American Clay Machinery Co., Bucyrus, Ohio; Young Bros. Co., Detroit; White Foundry Equipment Co., Harvey, Ill.; S. Obermayer Co., Chicago, and the P. H. & F. M. Roots Co., Connersville, Ind.

PITTSBURGH-CHICAGO FREIGHT

In Argument for Chicago Basing Point, Assertion Is Made that Buying in East Is Advantageous

The recently organized Western Association of Rolled Steel Consumers, which has headquarters at 1305 City Hall Square Building, Chicago, is working to obtain members who will represent an annual consumption of 1,000,000 tons, after which it will take active steps to secure for Western consumers the advantages it believes will accrue from the re-establishment of Chicago as a basing point.

As stated in THE IRON AGE last week, James E. MacMurray, president Acme Steel Goods Co., is president of the association; George M. Gillette, vice-president Minneapolis Steel & Machinery Co., is vice-chairman, and Paul Willis, Kenwood Bridge Co., is treasurer. The directors at large consist of Mr. MacMurray, Mr. Gillette, H. A. Wagner, president Milwaukee Bridge & Iron Co., Milwaukee; M. F. Moore, manager Kewanee Boiler Co., Kewanee, Ill.; and T. E. O'Brien, president Leader Iron Works, Decatur, Ill. Directors representing special interests are Frederic de Coningh, Chicago, representing the Sheet Metal Contractors' Association; C. E. Finkl, Chicago, of the Chicago branch of the National Metal Trades Association; and George Lasker, Chicago, representing the Chicago Boiler Makers' Association.

As a means of financing the association, membership fees based on a maximum fee of 10c. per ton consumed has been fixed.

A Western consumer associated with the new organization makes the following points in summing up the purposes of the association:

"1. Would it not be a good thing for all the ultimate consumers of steel, including the farmer, the building owner, the municipalities, etc., to be able to obtain their steel for \$5.40 per ton less than they could if they paid the Pittsburgh base price?

"2. Would it not be a good thing for the fabricators if, by reason of Chicago having the same price as Pittsburgh, competition from the Pittsburgh district could be eliminated, and Western business left to the competition of Western fabricators?

"3. Would it not be a good thing for the ornamental iron people, whose product is such that they are at times enabled to compete in Eastern territory, to be able to obtain their basic material at more nearly the cost that their Eastern competitors do?

"4. Furthermore, to us in Minnesota, a State which furnishes 80 per cent of the ore that goes into the manufacture of steel, doesn't it really seem unreasonable for us to pay the freight on this ore clear to Pittsburgh and back to Minnesota, and be charged the Pittsburgh plus price? Wouldn't it be just as logical for an apple grower in northern New York to quote a price on his apples f.o.b. Tonawanda plus the freight from Wenatchee, Wash., to New York?

"5. Isn't it illogical to longer maintain Pittsburgh as a sole basing point for steel furnished to this part of the country, when Birmingham doesn't do it for the South, and the West and Northwest is the only territory discriminated against, and when—according to Judge Gary—Chicago is producing steel as low or lower than Pittsburgh?"

Another Western consumer puts the situation thus: "I believe that it is fundamentally wrong for the steel companies arbitrarily to burden the Western portion of the United States with an item of freight expense from Pittsburgh to Chicago which is not incurred. In other words, we are given to believe that steel is manufactured in Chicago just as cheaply as it is at Pittsburgh, and if this is true—and if there is capacity in Chicago to supply the Western territory—which we believe to be the fact, it certainly is not good national economy for steel to be shipped from Pittsburgh into the Western territory. It would seem as reasonable to me to ship wheat from Ohio to Kansas.

"The equal basing point is due to the manufacturers and fabricators of steel in the West. The East

already is too congested, and the maintenance of the Pittsburgh basing point only tends to make it more so, as manufacturers and fabricators of steel products are forced to locate their plants in the East, except where they can supply very limited markets."

This same consumer also points out that fabricators can save around 12c. per 100 lb., under present conditions, on steel bought at Pittsburgh for delivery in manufactured form in Arizona, Oklahoma, Pacific coast points and Texas, if it is manufactured in transit and advantage taken of this privilege. He gives figures, in part as follows, to support his contention:

Comparative Freight Rates to West

| | Arizona | Pittsburgh | Chicago | Difference |
|--|------------|------------|---------|------------|
| Bisbee | \$0.67 1/2 | \$0.80 | | \$0.12 1/2 |
| Phoenix | 0.67 1/2 | 0.80 | | 0.12 1/2 |
| Oklahoma (Structural Steel) | | | | |
| Group No. 2 | 0.19 | 0.30 | | 0.11 |
| Group Nos. 3-4, etc. | 0.25 | 0.36 1/2 | | 0.11 1/2 |
| Oklahoma (Steel Plates) | | | | |
| Group No. 2 | 0.15 | 0.24 | | 0.09 |
| Group Nos. 3-4, etc. | 0.19 | 0.27 1/2 | | 0.08 1/2 |
| North Pacific Coast Ports .. | 0.67 1/2 | 0.80 | | 0.12 1/2 |
| California Ports | 0.67 1/2 | 0.80 | | 0.12 1/2 |
| Texas Common Points (structural) | 0.42 1/2 | 0.51 1/2 | | 0.09 |
| Texas Common Points (plates) | 0.36 1/2 | 0.51 1/2 | | 0.15 |

This consumer also says:

"I have known for some time there were advantages in purchasing materials in Chicago rather than Pittsburgh, but I was surprised at the amount involved. The bulk of our business is in Arizona, Oklahoma and Texas, with considerable on the Pacific Coast, and to practically all points in this territory we are at a disadvantage of from \$1.50 to \$3 per ton in purchasing our supplies from Chicago. We have noticed during the past few weeks that the Pittsburgh fabricators of tanks underbid us continually in the Texas and Oklahoma oil fields, and they do this because they have an advantage on plates of \$3 per ton in Texas, and something over \$2 per ton in Oklahoma. This, of course, means that we must hereafter purchase our materials from Pittsburgh, as it means an item of from \$2,000 to \$5,000 per month in our earnings.

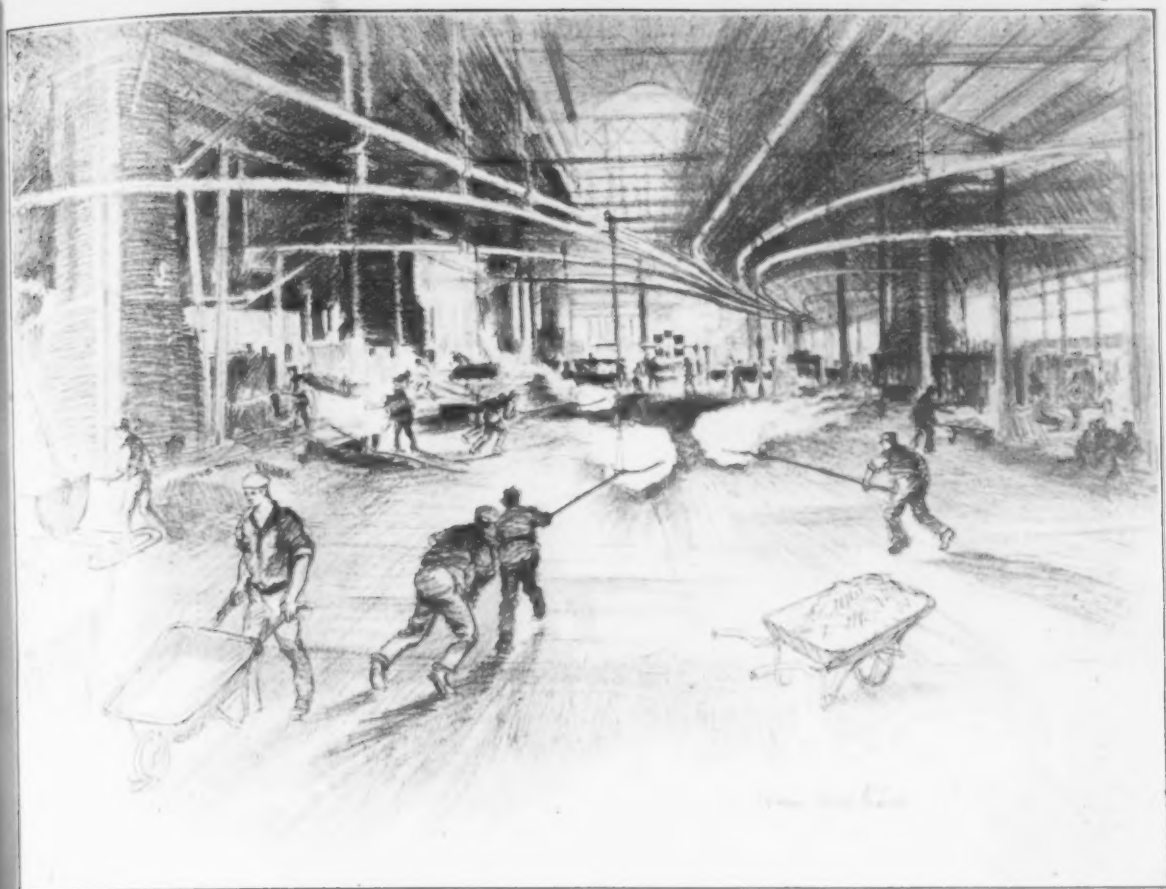
"Undoubtedly, Chicago mills have overlooked this feature, and doubtless the fabricators, on account of war conditions, have also been overlooking it."

To offset the condition described, the Western consumers ask that they be given the freight of \$5.40 from Pittsburgh to Chicago. They assert the concession will ultimately redound to the benefit of the Western mills, by increasing their business, not only that from existing consumers, but from others who will thereby be induced to establish or expand manufacturing plants in the West.

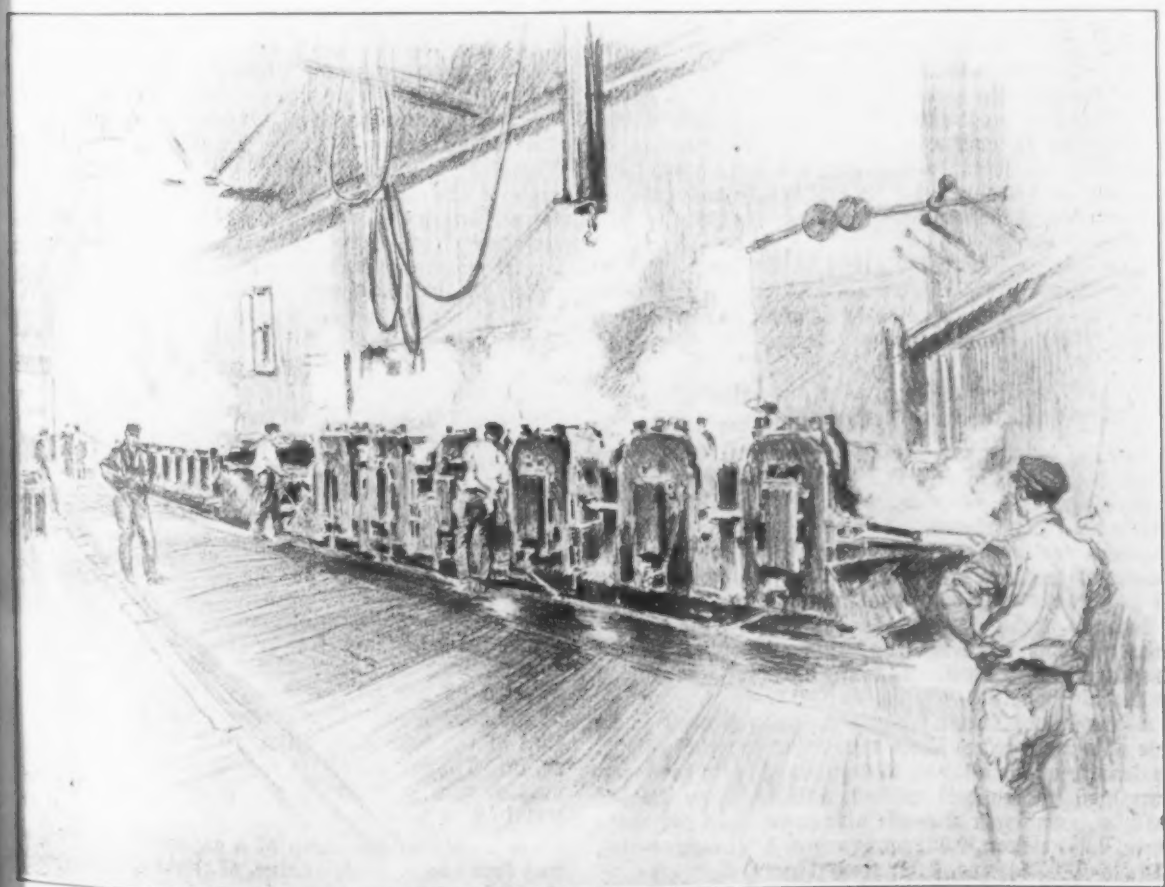
It is the expressed intention of the Western consumers, when fully organized, to lay the entire question before the Western mill executives. The latter have not formally expressed themselves as yet, but they say that the comparative cheapness of Chicago manufacture of steel has been exaggerated, and that the Western capacity is not equal to the demand in normal good times by a sufficient margin to justify a change. Again, they express apprehension lest there be a multiplicity of basing points, following demands from other centers, with consequent confusion. One of the strong points of the Western consumers is that on Eastern shipments they must pay double freight on products made from steel purchased in Chicago. They also emphasize the advantages they would have in utilizing their nearest source of supply exclusively.

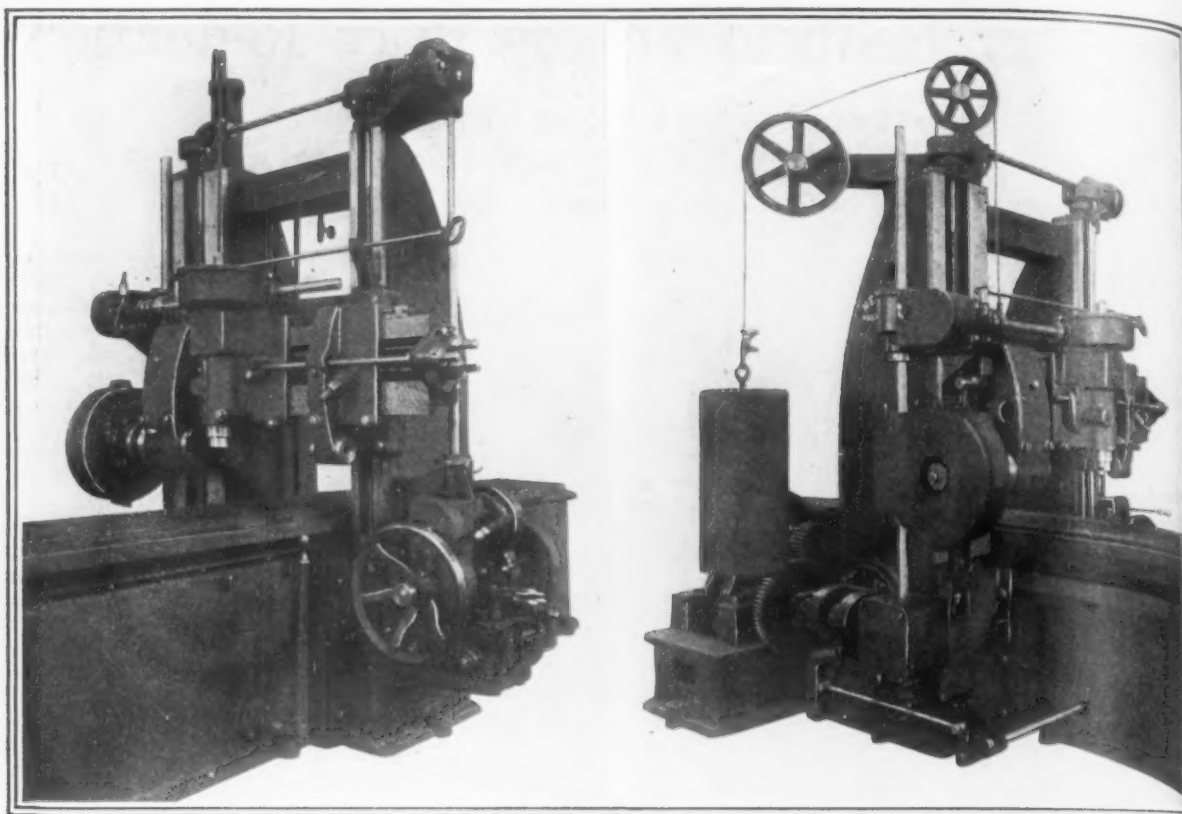
Metal Trades Convention

National Metal Trades Association will hold its 21st annual convention at the Hotel Astor, New York, on April 23 and 24. The annual alumni dinner, the meetings of the executive committee and of the administrative council will be on April 21. The gathering of the secretaries, and the joint meeting of the branch presidents, secretaries and administrative councils will be on April 22.



THE illustrations on this page are the last of a series of six reproductions of black and white drawings by Vernon Howe Bailey, shown in these pages, typifying operations in the mills of the Interstate Iron & Steel Co. The upper one shows a section of the puddling mill at East Chicago, Ind., where, supported by trolleys, balls of molten iron, the product of the puddling furnaces, are carried to the squeezer. The lower shows the continuous rod mill at the Grand Crossing works, which produces wire rods for the company's wire products department.





All Controls of This Milling Machine Are Concentrated and Brought Within Convenient Reach of the Operator. The spindle drives are encased to permit of continuous operations

A Flexible Keyseat Milling Machine

The new type heavy duty horizontal keyseat milling machine manufactured by the Newton Machine Tool Works, Inc., Philadelphia, possesses flexibility of control and a number of other interesting features. The machine is frequently supplied with a newly designed set of centers with quartering devices for accurately milling on the quarter the keyseats of locomotive axles, and when special quartering fixtures are used the keyseats in both ends may be finished with the original setting. The vertical spindle is used to end keyseats, such as those in the eccentric strap bearings. A cutter can be mounted on the horizontal spindle to allow milling keyseats in shafts in multiple. This design of machine is particularly desirable for long shafts because the table is supported its full length and does not overhang, and the base and table can be made to mill any desired length.

The machine illustrated was manufactured for keyseating shafts for large rotors and weighs complete 22,000 lb. when length of table to mill is 10 ft. The vertical spindle saddle, mounted on the flat cross rail,

has a hand cross adjustment on the rail by means of a rack and pinion. The independent hand vertical adjustment of the vertical spindle sleeve is controlled by a worm and worm wheel connected to the spindle rack pinion, and the control is actuated by a spline shaft carried to the right-hand end of the cross rail. The horizontal spindle head is also adjustable by hand within its range across the rail by a screw controlled from the right-hand side of the cross rail.

The table of the machine has nine changes of gear feed from a box in which are mounted adjustable sleeves, giving changes without removal of the gears. The table also has reversing fast power traverse. The cross rail is counterweighted, and has reversing vertical fast power traverse in addition to hand adjustment. The shaft transmitting motion for the vertical adjustment of the cross rail is fitted with a micrometer collar for adjusting the cutter on the horizontal spindle to the required depth. The horizontal spindle is driven by a bronze worm wheel and hardened steel worm, fitted with roller thrust bearings, and the vertical spindle by a worm wheel and spiral bronze gear. Practically every bearing except those for the lifting screws is bushed

Some German Metal Substitutes

Items of interest pertaining to the metal shortage in Germany during the war and the substitutes employed are presented in a pamphlet compiled by the War Trade Intelligence Department of Great Britain. The information was gained chiefly through the investigation of captured articles and the interrogation of prisoners, and may therefore lack some authenticity.

Because of the scarcity of tool steel only the cutting points of tools were made of this material, the rest being of ordinary steel. The cutting point was welded to the main body.

A screw cap taken from a Zeppelin proved to be made of a magnesium alloy, thus being especially light. The density of the alloy at 15 deg. is 1.837; its hardness, determined by the ball method, a little below that of duralium. Analysis showed: aluminum, 2.43 per cent; copper, 0.08; silicon, 0.02; manganese, 0.02; magnesium, 91.20; lead, 0.05; zinc, 6.02; iron (traces).

"Pertinax," a compressed paper product, was used

in lieu of lead and copper conduit pipes and in place of mica for insulation. This new material has been used for gas pipes, oil pipes, etc., is said to endure a temperature of 200 deg. without changing, to be water-tight, and insoluble. The pressure which the pipes could bear from inside was found to be three or four times that of lead, whereas the weight is less than a ninth that of lead.

It is a fine substitute for mica because it is cheaper, can be turned, stamped, sawed out, and drilled; its puncture voltage is about 25,000 volts per mm., is not affected by hot oils, and only begins to be destroyed at 200 deg. C. The tensile strength is nearly as high as that of the best Australian wood, being 14,000 lb. per sq. in. Though porcelain is still the best conductor for outdoor uses, pertinax begins to compete with this material as an insulator.

A buckle on the strap of a captured gas mask case was found to be made of zinc, of slight construction, but cleanly made.

Secretary Redfield Favors Price Reductions

Cables President Wilson, Asking Him to Appoint
Special Industrial Commission—Conferences in
Washington Consider Unemployment Problem

WASHINGTON, Feb. 11.—In an effort to stimulate consumption and keep labor employed, Secretary Redfield of the Department of Commerce has cabled President Wilson, asking him to appoint a special industrial commission which is to work out a schedule of price reductions. This is to be done first for the basic industries and later for the more highly developed ones.

The decision to ask for such a commission is the result of a series of conferences held last week in the office of Secretary Redfield, at which the various industries were represented as well as labor and the buying divisions of the Government. Other cabinet officials also have been in touch with the situation and the banking interests have been asked to help.

Secretary Redfield declares that every effort will be made to get the commission speedily to work, and suggests that it is likely that the steel industry will be the first one for which an effort will be made to work out price schedules. W. B. Dickson of the Midvale Steel & Ordnance Co., who participated in the conferences, will likely be a member of the commission for this purpose.

The conferences were outlined in THE IRON AGE last week. They were the result of the growing seriousness of the labor situation as reflected in all industries and were called by Secretary Redfield in the belief that quick stimulation would be necessary to keep factories running full time throughout the present difficult period.

Just how the price reductions are to be accomplished, the various conferences did not determine. That is to be left to the commission to work out. The only basic point laid down by the conference was that wages should not be touched. It must be admitted that that is a pretty important basic point.

It is planned to have the commission, however, find some way of putting sub-committees to work on the various industries. Both the high and low cost producers, the big consuming interests, and again the Government and labor are to be represented in the conferences that actually work out the price schedule.

Legally neither the commission nor the conferences will have any authority or power to fix prices. There is even a fear in some quarters that any thing that might be agreed upon would run afoul of the Sherman and Clayton anti-trust acts. Attorney-General Gregory has been represented in some of the conferences and

has discussed the matter with Secretary Redfield, but all that can be said on this score is that the conferences will carefully avoid actual collision with the law. To give the prices some kind of official sanction, however, it is planned to have them announced as the prices at which the various Government agencies are willing to go into the market to buy, and as fair prices to be recommended to consumers generally. Paul M. Warburg, former member of the Federal Reserve Board, has discussed the financial aspects of these several important points with Secretary Redfield.

It will be recalled that last December Judge Gary, as the head of the American Iron and Steel Institute, attempted to secure Government sanction for a reduced price schedule in the December session with the War Industries Board, but his program was vigorously rejected. It probably is some comfort to Judge Gary to find that the Department of Commerce has agreed that such a thing is necessary now.

Although there has been much pressure from manufacturers generally to stimulate foreign consumption, the conferees agreed that they should touch upon nothing of that kind. Particularly were they careful to avoid anything which might be looked upon as a suggestion to end the blockade against the Central Powers and the Northern neutral nations which might help to create a big foreign demand for many of our products.

The work is to be strictly limited to attempting to work out a feasible reduction in general prices in such a manner that it will induce a present acceleration in actual buying and thus keep factories at work and labor employed.

Although the cablegram to President Wilson included the names of the men recommended for the

commission, these were not given out at the time. It was planned to make the commission consist of six members, four of whom should be members of the Industrial Advisory Commission, which consisted of members and advisers of the old War Industries Board. The fifth member would represent the Government and the sixth labor.

Secretary Redfield gave out the following official statement to explain the purposes of the commission and the steps which have been taken to work out its program:

"Following a series of conferences between members of the Cabinet and others, a meeting was held in

Secretary Redfield's Summary

Secretary Redfield summed up the "conditions now confronting the country" which made action necessary, as follows:

1. Unemployment of labor, now large and rapidly increasing.

2. A stagnant condition of industry due to several reasons:

(a) Industries are not resuming production in full volume for lack of buyers.

(b) Consumers are not buying except for immediate needs or emergency requirements, because of high and unstable prices.

(c) Prices are high and unstable, due to the effects of the war, which interfered with the ordinary operation of the law of supply and demand.

(1) Prices were inflated beyond the possibility of maintenance upon the same scale during peace time.

(2) Prices advanced or were fixed to encourage maximum production by producers operating at the highest cost.

(3) Prices advanced disproportionately, some showing increases over pre-war prices of 250 per cent, while others showed but 50 per cent.

(4) These advanced prices largely obtain now, and, unless concerted action on the part of industry and the Government is taken, a long time will be required by the law of supply and demand to reduce them to the proper level.

3. This stagnant condition of industry is equally detrimental to labor, capital and the Government, and it is believed that industry will welcome an opportunity to put the prices of its commodities upon a sound and stable basis.

This stable basis, it is clear, must be upon a higher scale of prices than those of the pre-war period.

Washington on Feb. 5, which was called by the Secretary of Commerce to consider the industrial situation with particular reference to unemployment and the prospect of resumption of active buying. At this meeting there were present a number of the former heads of the more important divisions of the War Industries Board, representatives of various Government departments and others interested in the subject.

"It was recognized by the meeting that a considerable amount of unemployment existed and that with the return of the troops this unemployment would tend to increase. It was also recognized that in a large measure the unemployment was seasonal and due to the impossibility of carrying out open-air construction in the Northern states at this time of the year. It was, however, agreed that a second important cause was the reluctance of buyers to purchase more than their emergency requirements at the present level of prices, and it was felt that a determination of a post-war level of prices for basic commodities was urgently needed. It was the general opinion, illustrated by many specific cases, that a large latent buying power existed in the country which needed only a satisfactory level of prices to become effective. It was pointed out that the establishment of a satisfactory level of prices at this time offered particular difficulties, because war prices, as fixed, are recognized as abnormal; on the other hand, there is no prospect in the immediate future of the restoration of pre-war prices. It was felt that wages would remain on a higher level than before the European war and that no readjustment in the true wages of labor as measured by purchasing power should be attempted, though it was felt that as the cost of living is reduced labor would readily agree to the corresponding adjustments in money wages.

"If events are left to take the natural course, the establishment of post-war prices would probably be a difficult and protracted matter since prices of one commodity affect other commodities and producers would wait for one another to take the first step. Such a course of procedure would involve much unemployment and a loss to both labor and capital.

"It was the sense of the meeting that the fine spirit of voluntary co-operation in industry which had proved such a valuable factor in the conduct of the war should be availed of to ease and expedite the processes of readjustment and that the manufacturers of the country would be willing to take the first step.

"After a full discussion of the situation, which occupied the greater part of the day, a resolution was adopted, asking the Secretary of Commerce to seek the approval of the President to the appointment of a committee to deal with the situation. It was contemplated that this committee should call into conference the representatives of the basic industries of the country to examine conditions in industry with a view to the formulation of a scale of prices at which the Government departments and other buyers would be justified in buying freely and at which the manufacturers would be willing to sell with a view to maintaining or restoring business activities to a full volume. It was felt that time was the very essence of the problem and that therefore the appointment and action of the committee should proceed with all possible speed. It was believed that public announcement of the conclusions of such a committee would have a great value in establishing confidence in a level of prices and would be accepted by bankers and others as a basis for credit."

The Advisory Committee

The Chamber of Commerce of the United States has issued the official list of chairmen of the 388 war service committees who are members of the Advisory Committee of American Industries. Although primarily organized for war purposes, the committee is now participating in the work of reconstruction, and is expected to assist the Department of Commerce commission on price reductions.

Among the war service committee chairmen are the following:

Air compressors and pumps—J. W. Gardner, Gardner Governor Co., Quincy, Ill.

Automatic mechanical stokers—P. A. Poppertusen, Gen. Engineering Co., 14 East Jackson Boulevard, Chicago.
Automatic sprinklers—W. G. Allen, Automatic Sprinkle Co. of America, Hamilton Building, Akron, Ohio.
Automobiles—Hugh Chalmers, 509 Seventh Street, N. W., Washington.
Ball bearings and steel balls—W. M. Nott, The Nott Co. of America, 1790 Broadway, New York.
Bare copper and bronze wire—F. W. Wadsworth, Wadsworth Wire Co., 20 Exchange Place, New York.
Bicycles and bicycle parts—E. J. Lonn, Great Western Mfg. Co., Laporte, Ind.
Boilers—W. C. Connelly, Connelly Boiler Co., Cleveland.
Brass and copper manufacturers—J. P. Edson, American Brass Co., Waterbury, Conn.
Bronze castings—Albert Y. Evans, Moore, Jones Brass & Metal Co., 913 Sixty-third Street, Philadelphia.
Building hardware—C. S. Parsons, P. & F. Corbin Co., New Britain, Conn.
Cast-iron boilers and radiators—Frederick W. Herodotus, Geneva, N. Y.
Cast-iron pipe—L. E. Lemoine, United States Cast Iron Pipe & Foundry Co., Philadelphia.
Cast-iron soil pipe and fittings—DeCoursey, Cleveland.
Central Foundry Co., 90 West Street, New York.
Chains—C. M. Power, American Chain Co., New York.
Chucks—A. F. Corbin, Union Mfg. Co., New Britain, Conn.
Concrete reinforcements—John F. Havenmeyer, Concrete Steel Co., 42 Broadway, New York.
Concrete mixers—C. G. Lang, Lakewood Engineering Co., Cleveland.
Condensers—J. J. Brown, Wheeler Condenser & Engineering Co., Carteret, N. J.
Dairy machinery—C. A. Wiltsee, Davis-Watkins Dairy-men's Association, Jersey City, N. J.
Drop forgings—F. A. Ingalls, Ingalls-Shepard Forging Co., Harvey, Ill.
Electric furnaces—G. H. Clamer, Ajax Metal Co., Philadelphia.
Fabricated steel—Thomas Earle, Bethlehem Steel Co., Bethlehem, Pa.
Farm and hand pumps—H. H. Macomber, Flint & Walling Co., Kendallville, Ind.
Farm operating equipment—C. S. Brantingham, Emerser-Brantingham Co., Rockford, Ill.
Farm power and light equipment—R. H. Grant, Domestic Engineering Co., Dayton, Ohio.
Field and poultry fencing—W. H. Burnham, Peerless Wire Fence Co., Adrian, Mich.
Foundry equipment—V. E. Minich, Sand Mixing Machine Co., New York.
Foundry products—H. D. Miles, Buffalo Foundry & Machine Co., Buffalo.
Foundry supplies—Ralph Ditty, Federal Foundry Supply Co., Cleveland.
Furnaces—Edward Norris, Utica Heater Co., Utica, N. Y.
Furnaces, large heaters—W. R. Murphy, American Foundry & Furnace Co., 1008 Mutual Building, Richmond, Va.
Hardware manufacturers—Murray Sargent, Sargent & Co., New Haven, Conn.
Hardware jobbers—Harry A. Black, Black Hardware Co., Galveston, Texas.
Industrial electric trucks and tractors—Lion Gardinet, Lakewood Engineering Co., Cleveland.
Iron and steel—Elbert H. Gary, United States Steel Corporation, 71 Broadway, New York.
Iron, steel and heavy hardware jobbers—Samuel L. Orr, Orr Iron Co., Evansville, Ind.
Laundry machinery—L. S. Smith, American Laundry Machinery Co., Cincinnati.
Locomotive crane builders—Sheldon Cary, The Browning Co., Cleveland.
Machine tools—C. Wood Walter, Cincinnati Milling Machine Co., Cincinnati.
Malleable iron—Frank J. Lanahan, Fort Pitt Malleable Iron Co., Pittsburgh.
Manufacturers of mill machinery supplies and miscellaneous machinery—J. H. Williams, J. H. Williams & Co., Brooklyn, N. Y.
Marine internal combustion engines—Eugene A. Riota, Standard Motor Construction Co., Jersey City, N. J.
Mill and mine supplies and machinery dealers—Alvin M. Smith, Smith-Courtney Co., Richmond, Va.
Motor cycles—Frank J. Weschler, Hendee Mfg. Co., Springfield, Mass.
Motor trucks—George M. Graham, Pierce-Arrow Motor Car Co., Buffalo.
Pipe and supplies—L. C. Huesman, Central Supply Co., Indianapolis.
Pipe fittings and valves—Stanley G. Flagg, Jr., Stanley G. Flagg Co., Philadelphia.
Pneumatic tools—L. W. Greve, Cleveland Pneumatic Tool Co., Cleveland.

Railway car—W. F. M. Goss, Railway Car Manufacturers Association, 81 Broadway, New York.
 Road machinery—W. R. Wilson, American Road Machinery Co., 1000 Second Square, Pa.
 Saddlery—George B. Shepard, Eberhard Mfg. Co., Cincinnati.
 Sheet metal—Sidney Detmers, Republic Metalware Co., Buffalo.
 Sheet metal contractors—W. A. Fingles, 34 South Liberty Street, Baltimore.
 Stationary gas engines—Chris. Heer, Reliable Engine Co., Portsmouth, Ohio.

Steel barrels—R. H. Hackney, Pressed Steel Tank Co., Milwaukee, Wis.
 Steel sash—V. F. Dewey, Detroit Steel Products Co., Detroit, Mich.
 Steel tanks—M. F. Moore, Kewanee Boiler Co., Kewanee, Ill.
 Stoves—Frederick Will, Sill Stove Works, Rochester, N. Y.
 Textile machinery—Edwin H. Marble, Curtis & Marble Machine Co., Worcester, Mass.
 Tin—Louis D. Conley, Conley Fall Co., 521 West Twenty-fifth Street, New York.

Unemployment Is Steadily Increasing

WASHINGTON, Feb. 11.—The complication of the Bolshevistic situation in the Seattle strike has sounded an alarm in Washington. Government authorities are trying with considerable apprehension to speed up measures to meet unemployment. But with the exception of the conference called by Secretary Redfield of the Department of Commerce, nothing has been done. Whether his presidential commission plan, to reduce prices but not wages, will help to solve the problem is difficult to forecast.

The actual unemployment is still growing worse daily, with no prospect of any kind of relief. The demobilization of the army, by military units, continues unchecked, although the growing tide of jobless men has resulted in increasing the pressure of the Department of Labor upon the War Department to change to the British scheme of demobilization by industrial units. The Department of Labor insists that the War Department refuses to accept this proposal merely because it would entail more labor to handle the demobilization. This the War Department denies and it insists that it is guided solely by military considerations.

There is also an unpleasant conflict within the Department of Labor over the question of unemployment statistics. The United States Employment Service has been compiling weekly figures which have revealed a startling increase in the number of men out of work. As a rule, the chief criticism against these figures has been that they have underestimated the seriousness of the situation and that the true conditions of the various industrial centers are really far worse than the service has admitted. This has been demonstrated by the speed with which the service estimates of labor surpluses have increased.

An Optimistic View

Now comes the Information and Education Service of the same Department of Labor and quotes the "Training Service officials" of the department as saying that "any surplus of labor in America will be a temporary condition."

According to these officials, the situation is not nearly so serious. Their official prediction is "that once agriculture and industries get under way, a few months hence, there will be a shortage of several million men, unless factories begin at once a training program that will increase the efficiency of the help they already have."

"These officials," continues the official statement, "point to the practical cessation of immigration in the past four years and to the consequent loss of an annual increment of about 750,000 in population totalling 2,000,000 for the period. Moreover, probably 1,000,000 American workers will still be under arms in France for many months, and the demands of reviving industry and the required farm production to feed this country and the starving nations of Europe will greatly exceed the supply of labor available, they believe."

"Farms in the spring will need 2,000,000 workers. Factories and building will require large numbers of men. The great food production that will be required during the coming season will tax the manpower of the nation, the training officials believe, and will lead to a competition between factories and farmers for unskilled labor."

"Much of the severity of this competition can be prevented, they hold, by the installation at once of

training departments in factories that will be engaged in peace-time production. By this method the efficiency of the individual workman will be increased, and the factories will be enabled to continue their work with comparatively small additions to the forces now employed.

"If this plan is not adopted, the Training Service expects a labor shortage next July comparable to that of last July."

That is a pretty large statement, for last July there was a shortage of more than 1,000,000 workers.

The Growing Surplus

On the other side of the ledger, the figures given out by the Employment Service reveal a dangerous speed in the increase of unemployment. According to these figures—and they only represent the conditions affecting plants employing about 4,000,000 men in 130 cities—the labor surplus now amounts to 290,831 against 265,000 a week ago. Fifty-seven per cent of the cities reporting announced surpluses of labor, against 50 per cent in that class a week ago. Thirty-two per cent report supply and demand about equal, and 11 per cent against 13 per cent report a shortage of labor. But these report a total of only 8000 unfilled places.

To make matters worse, strikes are still reported from a long list of industrial centers and everywhere there is a feeling of unrest that has caused great worry to the leaders in Washington, both in the unions and out of them. For the union leaders—and the Department of Labor generally reflects their sentiment—are not anxious at this time to test the popularity of their cause by precipitating strikes.

The State by State unemployment situation shows that the general conditions have been growing worse generally, according to the figures compiled by the Employment Service. Connecticut still shows the same steady increase of unemployment. In New Haven there is a surplus of labor of 6000. Bridgeport reports a surplus of 7500, an increase of 500 over last week. Norwich, New London, Stamford, and Middletown, all report surpluses. In Derby, unemployment increased during the week from 600 to 950. Hartford, which has been reporting the supply about equal to the demand, now shows a surplus of 1500. Meriden, which has also been reporting the supply equal to the demand, now shows a surplus of 1000. A number of large industries in Connecticut are anticipating the necessity of laying off many of their men. Worcester, Mass., reports 6500 of unemployed, which is an increase of 500 over last week. Boston reports a surplus of 4500, an increase of 1700 over last week. Federal examiners, however, state that it is their belief that the number of unemployed in Boston is much larger than this figure. Many of the textile mills in Massachusetts are running now on two-thirds time. There are over 20,000 workers unemployed in the State in addition to some 9000 machinists, 2500 boot and shoe workers, 1000 carpenters, 1100 garment workers and a very large number of common laborers. Maine reports considerable unrest in the textile industry with unemployment growing daily, due to the fact that but few orders are being placed. There is a large amount of surplus labor in Portland.

Reports from New Hampshire and Vermont show practically no change, with the supply approximately equal to the demand.

In New York, the Albany district reports a surplus

of 5500. Buffalo reports a surplus of 18,000, Syracuse, 5000; Utica, 2500; Rochester, 4000. New Jersey still reports the demand for labor about equal to the supply, although some communities report slight surpluses.

Conditions in Pennsylvania

Pennsylvania has joined the unemployment column. Pittsburgh, which reported a surplus of 5000 of common labor last week, now reports a surplus of 1900 with a shortage of about 2500 miners. At Scranton there has been considerable change in the mining labor situation over last week. One company which reported a shortage of 4100 mine workers about two weeks ago has closed one of its collieries, laying off 800 men. Another company which reported a shortage of 800 men now says that it does not necessarily need any men. The same situation applies to many other companies. In Philadelphia the supply about equals the demand for labor. About a month ago Philadelphia reported a shortage of 6000. Harrisburg reports a surplus of common labor with the prospect of the condition becoming very much worse by the laying off of large numbers of men by several of the big industries. In Bethlehem the supply about equals the demand, with one of the large steel companies expecting to lay off about 400 men. Erie reports a surplus of 3000.

Ohio has probably the worst employment situation in the country. Cleveland reports a surplus of 70,000, an increase of 5000 over last week. Akron reports a surplus of 2000, an increase of 500. Dayton reports a surplus of 11,000, an increase of 3000 for the week. Toledo reports a surplus of 9000; Youngstown, 4600, Cincinnati, 2200. The heaviest surplus in the State is in common labor, of which there are 35,000 unemployed, 30,000 are unemployed in the building trades, 20,000 in unskilled labor, 10,000 in electrical workers and 5000 lake seamen.

Detroit reports 35,000 unemployed, an increase of 2000 over last week. Grand Rapids reports a surplus of 2500 and unemployment throughout the State is increasing. Minneapolis reports a surplus of 5000, the same as last week. Duluth and St. Paul report the supply about equal to the demand. There seems to be opportunity for high grade toolmakers and designers. Milwaukee, which last week reported a surplus of 10,000 now reports a surplus of 11,000. Superior reports a surplus of 1000. Racine, Wis., reports that the supply about equals the demand.

Surplus in Illinois

Slight surpluses are reported throughout the State of Illinois with Chicago reporting the supply about equal to the demand. This report, however, is far too optimistic in the light of other reports. Most of these are highly pessimistic and the accumulation of demobilized soldiers is making the situation particularly difficult. There is an urgent demand for locomotive machinist-boilermakers. Indianapolis reports a surplus of 5300; Evansville, 1500; Fort Wayne, South Bend and Terre Haute, 500 each. Kansas City, Kan., reports a surplus of 600. Missouri reports considerable surplus all over the State.

Montana reports a surplus of 4000 laborers, 4000 ore miners, and 500 railroad workers. General unemployment is developing rapidly throughout the State. Omaha, Neb., still shows a slight surplus. Arizona reports a surplus of approximately 5000, with men being released in the mining districts. In Idaho, the supply about equals the demand.

Slight shortages are still reported in North Carolina, South Carolina, and Tennessee. Norfolk, Va., reports a shortage of about 1500. Baltimore, which last week reported a shortage of 2600, now reports a shortage of 700. Four weeks ago, Baltimore reported a shortage of 4800. Louisville, Ky., reports a shortage of 500.

San Francisco, which reported a surplus of 4000 last week, now reports a surplus of 5000. Los Angeles reports a surplus of 8000, and Oakland, 2000. Spokane, Washington, shows a surplus. Portland, Ore., reports a surplus of 8000, which is an increase of 1500 over last week. No report is published from Seattle or Tacoma.

O. F. S

COMPLIES WITH LAW

Consolidated Steel Corporation Files Necessary Documents in Washington

WASHINGTON, Feb. 11.—The Consolidated Steel Corporation, the export company of the independent steel concerns, has filed its incorporation papers with the Federal Trade Commission, as required by the Webb law. The delay in the filing is explained by the fact that the documents were sent to Washington last month, but got into the hands of the special bureau of the Federal Trade Commission, which has been investigating the iron and steel industry, and that organization did not discover until last week that it had no use for the papers. Then it sent them back to the company.

These papers include the charter of the new corporation, organized under the laws of the State of Delaware, the by-laws of the company, the memorandum of the constituent companies, and its first report. The chief item of interest in the agreement is that it pledges each of the companies to hold 10 per cent of its production at the call of the export company.

The capitalization of the company is reported at \$10,000,000 in shares of \$100 each, but no details are given concerning the itemized subscription. The business is specified as "solely organized for foreign export," and the product to be exported as "steel, iron, and products thereof." The principal office in the United States is 165 Broadway, with a statutory office at 7 West Tenth Street, Wilmington, Del.

The company is given the title of "Association No. 9" by the Federal Trade Commission, which means that out of more than 100 filings only nine have so far complied with the terms of the statute, and that even of these several are not without flaws in the papers which have been filed with the commission. Apparently, the Consolidated Steel Corporation's documents comply with the statute throughout. The only other organizations which have received a clean bill of health from the Federal Trade Commission are the American Webbing Manufacturers' Export Corporation, the United States Office Equipment Export Association, the Copper Export Association, the Textile Alliance Export Association, and B. Merzberg & Son.

Rails for Canadian Government

TORONTO, ONT., Feb. 10.—The Dominion Steel Corporation, Sydney, N. S., has received an additional order for 125,000 tons of steel rails for Government purposes. This order is sufficient to keep the present plant of the company operating to capacity until the end of the present year, and by that time the plate mill, now under construction, will be completed and in operation. The company has already completed its former order from the Government for 100,000 tons of steel rails. On Feb. 2, the day Mark Workman, president of the company, sailed for Europe, the company received what was practically a blanket order for steel rails. Two days before, a cable from Belgium contained a very large order, and just before that one came from South Africa. All these orders had to be turned down because the company is working to capacity on Canadian orders. Mr. Workman now feels very optimistic about the prospects before steel companies in Canada. He stated, "Before many months, I am confident, they will have all the business they can handle."

Opens Sales Offices for Pig Iron and Coke

The Cleveland-Cliffs Iron Co., Cleveland, has established a sales department for beehive and by-product coke and pig iron, and will sell the output of the two blast furnaces and by-product plant of the Cleveland Furnace Co. David R. Croxton, president of the latter company, has become associated with the Cleveland-Cliffs Iron Co. as manager of the pig iron sales department and will divide his time between the two companies. Raymond S. Fox, formerly associated with the Walter-Wallingford Co., and with Hickman, Williams & Co., has been made sales manager.

HARMONY RESTORED

National War Labor Board Halts Action Against Bethlehem Steel Co.

The National War Labor Board has announced that it has halted action in the case of the Bethlehem Steel Co. growing out of the alleged refusal of its president to obey the findings of the board.

This step was taken after the receipt of a statement from Paul D. Cravath, counsel for the Bethlehem Steel Co., who deprecated the "misunderstanding" which had arisen, and gave assurance that the instructions of the board with regard to relations of employer and employee would be followed faithfully.

The clash between the company and the board developed after the signing of the armistice, the board charging that E. G. Grace, president of the company, had attempted to "repudiate" the system of collective bargaining installed at Bethlehem by the board.

The board has issued this written comment:

"The board received the statement and directed that no further action in the case be taken by the board until the company shall have an opportunity to do that which it announces is its purpose, and to test the practical character of its proposals and its full compliance with the spirit of those proposals as interpreted by the board."

Mr. Cravath's statement follows:

Statement by Counsel for Bethlehem Steel Co.

February 4, 1919.

I am glad to be able to say that real progress has been made in removing the misunderstandings which seem to have developed between the War Labor Board and the Bethlehem Steel Co. The principal misunderstanding which has arisen grew out of Mr. Grace's letter to your board of Nov. 27 last, which unfortunately did not convey to your minds the meaning that Mr. Grace had in his mind. He joins me in expressing regret that instead of writing that letter he did not have a conference with your board with a view of working out the best means of meeting the changed conditions brought about by the armistice—a conference which I am sure would have prevented much, if not all, the misunderstanding which followed.

It has not been the disposition of Bethlehem to disregard the findings of your board nor to take advantage of the signing of the armistice to withdraw from the assurances which it gave you during the war period. On the contrary, the company authorizes me to say that it recognizes that you are entitled to its loyal cooperation in carrying through the two important measures with which your findings dealt.

First, The inauguration of an effective plan for collective bargaining between the management and the employees, and, second, the doing of all that can be done to secure from the War and Navy Departments, and the other procurement departments of the Government, an allowance to cover such additional compensation as may be necessary to give Bethlehem employees the retroactive pay recommended by your findings.

Did Not Intend to Withdraw

At no time since the armistice has it been the purpose of Mr. Grace and his associates in any way to withdraw from these commitments. Mr. Grace did feel that under all the circumstances his company was free to install at the Bethlehem plant the same plan for collective bargaining that had been successfully established at its other steel plants and to cause the election of new committees in accordance with that plan. I have advised him, however, and he cheerfully accepts my advice, that he should accept the view of your board that the committees of employees heretofore elected under your supervision should be recognized by the company and that the management should work out with them the details of an effective plan for collective bargaining. This it is necessary to do inasmuch as your board very wisely did not go further than to supervise the election of committees of our employees, leaving it for those committees to deal with the company in all matters relating to the actual adoption and enforcement of the plan.

The company therefore authorized me to say that it will at once invite the committees of our employees heretofore elected to meet and enter into a conference with the management regarding the details of the plan and such other matters as may seem to these committees to require discussion with the management. While, as I am informed, the recent radical reduction in forces at Bethlehem, rendered necessary by the practical cessation of war work, has

not had the effect of so reducing the personnel of the committees as to make them unworkable, it is nevertheless recognized that in respect of any of the committees elected the contrary should prove to be the case, the method of filling vacancies should be determined by the general committee of the employees.

Will Loyal Carry Out Policy

I am assured, and I believe, that the Bethlehem management will loyally carry out the policy here outlined. Not only are they anxious to make good the assurances given to your board, but they have become firm believers in collective bargaining and are anxious that it should be successfully put into effect at all their plants.

The officers and directors of the company are very strongly of the opinion, in which after conference with them I fully concur, that much of the advantage of a plan of collective bargaining to both the employees and the company will be lost if its operations are to be supervised by any governmental authority. During the war it was manifestly the duty of the company to meet any conditions that the Government deemed it wise to propose, but now that the pressure of war work has almost entirely ceased, the task of the management and of its employees is to develop satisfactory workable relations for normal peace conditions. The management fear that the presence of a Governmental representative will complicate the relations between the company and its employees, will suggest distrust and suspicion, for which I hope and believe there is no foundation, and will place the Bethlehem company at a disadvantage as compared with other important steel companies.

Responsibility to Employees

We fully appreciate that your board is under a responsibility to Bethlehem employees to see that a fair system of collective bargaining is installed. To that end, the company will be very glad to furnish you, from time to time, with any information you desire regarding the measures it is taking, and, of course, our employees do not require our consent to resort to your board in case they should feel that the action of the management in respect to collective bargaining does not seem to them to be in accordance with the principles laid down by your board.

My own conclusion, after such study as I have been able to give to the situation, is that it is to the advantage of all concerned that the management and the committees of our employees heretofore elected under your supervision should be given a chance to work out their own conclusion in their own way in a spirit of mutual confidence and cooperation.

The Bethlehem company heartily concurs in the suggestion that a section of your board be appointed to take up with the various procurement departments of the Government arrangements to determine the amount to be paid to the Bethlehem company to provide the retroactive pay called for by the findings of your board. The officers of the company assure me that in case of the appointment of such a section, they will give it their full cooperation. Indeed, it would be welcome to us if we could deal with the section so to be appointed as to all matters between Bethlehem and your board.

A dry cell battery that can be recharged is being marketed by the U-Need-It Dry Storage Battery Co., 115 Prince Street, New York. The cell is built the same size as the ordinary dry primary battery, but differs in that the usual manganese content has been replaced by a combination of chemicals.

The Taylor Wilson Mfg. Co., whose foundry at McKees Rocks, Pittsburgh, was destroyed by fire on Dec. 5 last, is now building a new foundry 90 by 190 to replace it. The company states it will not be in the market for any equipment for the new foundry, which it expects to have in operation about April 1.

The Blaw-Knox Co., Pittsburgh, manufacturer of steel products, has moved its San Francisco offices from its warehouse at 528 Second Street to 630 Monadnock Building, San Francisco.

The Ashland Fire Brick Co., Ashland, Ky., has opened a sales office at 29 South La Salle Street, Chicago. S. P. Adams, an experienced fire brick man, has been placed in charge.

Because of the high price of steel the large rolling mills of the Canadian Steel Foundries at Welland, Ont., closed down Jan. 29, throwing 250 men out of employment.

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THE IRON AGE

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GEORGE SMART

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The New Tax Bill

The new revenue law as finally presented to Congress late last week by the conferees between the two houses is a much more satisfactory measure than either the Senate bill or the House bill. Alterations have been made in keeping with much of the intelligent criticism that was leveled at the former attempts. In particular, there are various provisions incorporated that are calculated to mitigate the severity of the bill to business interests occupying peculiar positions. There is much more liberal provision than was expected regarding adjustment of inventories as of January 1, 1919, whereby allowance may be made for depreciation in values discovered after that date. In view of the great difference between the tax rates for 1918 and 1919 profits respectively, that is a very important matter. If profits and tax rates were the same from year to year the manner of computing the inventory would be of relatively small importance.

Various features of administration are yet to be formulated, and on them depend much of the success of the measure in its avowed purpose of reaching and taxing real profits. Naturally enough, considering its personnel, Congress was slow to appreciate the intricacies of business whereby apparent profits might disappear wholly in final adjustments, yet have been subject to tax, which would have to come out of capital if the profits were not real. The bill now, however, is much clearer, and leaves less to administration than was the case with the bills of the respective houses of the Congress. One of the most radical changes in administration provided by the bill itself is that requiring that affiliated interests shall report as a whole instead of their component parts reporting separately. This change applies, for instance, to the United States Steel Corporation.

From the viewpoint of the steel industry, the computation that the prospective law will raise two-thirds as much revenue from the operations of 1919 as from the operations of 1918 will hardly be accepted. Some computations can be made, with supposititious figures, that would indicate a large manufacturing corporation could suffer a large decrease in total profits from 1918 to 1919, pay very much less taxes, according to the rates prescribed, and have as large net earnings in 1919 as in 1918. This, of course, was expected by the framers of the

bill, who desire to lighten the burdens upon business enterprises as quickly as possible, and depend upon the small decrease in the personal income rates to keep the measure's yield up to two-thirds that for its first year of operation.

It is generally recognized that there are very serious objections to a tax which depends for its computation upon a determination of what is the "invested capital." No two authorities are likely to agree entirely in the case of any business as complicated as to what is the "invested capital." In the present measure the "invested capital" is less of a determinative factor than in some former drafts. In the case of 1918 profits, it is not used in the final computation if the average profits of 1911-12-13 were greater than 10 per cent of the invested capital, but to determine whether or not this is the case the computation must of course be made. If the 80 per cent rate is to be used, it is of the utmost importance whether a given dollar of profits falls within or without the exemption. In the case of the additional 12 per cent, the matter of invested capital does not enter, as the 12 per cent is levied upon the total profits minus the 80 per cent tax.

For taxing 1919 profits the exemption is made 8 per cent of invested capital, whereupon a tax of 20 per cent is imposed, and as this is only one-fourth of 80 per cent, the computation of what invested capital has correspondingly less responsibility placed upon it, this of course on the assumption that the profits do not run above 20 per cent, for if they do the tax is 40 per cent. Disregarding such a case and noting that the normal tax is 10 per cent upon all profits minus the 20 per cent tax, the responsibility resting upon the computation of invested capital is correspondingly reduced. That is, if the dollar of income is exempted from the extra tax because it falls within 8 per cent of invested capital, it must still pay 10 per cent, whereas if it falls without it must pay 20 cents tax, and this tax is deducted from the profits that must still pay 10 per cent.

Taking almost any assumptions that may be made as to the profits of a manufacturing company in 1918 and 1919 respectively and applying the tax provisions to the figures, it can be seen that the taxes undergo a great decrease, whereby profits may be greatly lowered and net earnings not impaired. In practically all cases, therefore, where

corporations had large net earnings in 1918 after making allowance for taxes they can afford to sell at materially lower prices in 1919 and still have large earnings, provided their turnover is as large as in the earlier year. The individual income tax, on the other hand, is reduced only very slightly, from the 1918 basis, for 1919 and subsequent years. These really remarkable personal taxes seem to have become practically a fixture.

Inciting to Buying

He who has needs is being urged on all sides to buy. He may feel sure prices will sink in his favor in the early future, but for patriotic reasons he is asked to arrange for his necessities forthwith. He should, it is suggested, join the ranks of the exhorters so his neighbors will do likewise. There are surely needs unsatisfied and clearly buying en masse would electrify the war-dulled business world. We would for the time being have no concern over the possibilities or even actualities of foreign trade; the expected stimulus of export buying would be impetus instead.

It is asking a good deal of the manufacturer, as things are now viewed, to make capital expenditures on the one hand or increase his material reserves on the other. Until convinced otherwise, he will feel that he is loading himself with an overhead which may take years to write off or with a cost item which will require unexampled economies to maintain attractive selling prices. To do all this for patriotic motives is to introduce a handicap on top of those which are brought frequently enough upon a business through errors of judgment and incapacity and inefficiency. Were there a universal movement of the kind, involving a small sacrifice by each and every industrial enterprise, the artificial betterment might prove worth while. Back of it all is the exemplary desire to hasten the end of the lethargy from which the world is suffering.

Talk of this kind is, of course, bound to be helpful, but so long as deflation from war labor and commodity prices is regarded as incomplete, private buying on any scale is unlikely. In fact, anything approaching activity in the next few weeks would tend to check readjustment in wages and thus indirectly any further readjustment in what wages buy. Prolonged dullness through accentuating unemployment is to be avoided, but industry will be better off when both employer and employed fully recognize that the existing structure has a flimsy foundation.

If the return of industrial activity needs to be hastened in a special way, the expenditure of public money might be justified not on economic grounds but because society might find such expenditure less than the cost of disorders incited by agitators in periods of widening idleness. For the growing social dictum is that the State must provide work. Instead of employers of labor standing the cost in the inequitable way suggested, what betterment results is paid for by the community benefiting. Municipalities have lately been planning to push improvements and pressure has been brought on the railroads to make repairs, renewals and even extensions, complex

though this is under the present uncertain tenure and conditions of control. It is to public rather than private enterprise that we should look for business resumption, but even then officials will be expected not to forget that public office is a public trust.

Meanwhile the Secretary of Commerce, who has come to the conclusion that the present business ailment must not be allowed to run its course without some palliatives and has asked for the immediate buying of needs, has also arrived at a belief that Government intervention may be advantageous in the matter of price revisions. He has proposed a plan to hold conferences at which heads of businesses and representatives of the Government and labor may be present to arrive at a scale of attractive commodity prices. It is assumed apparently that they will be accepted as safe buying levels owing to the auspices under which they are promulgated. The developments will be watched with interest, but immediate necessary buying, so called, is likely to come with rather than before buying by Governmental agencies and all may wait on the proposed Government price adjudications if these seem likely to come.

Opposition to Prohibition

Opposition to the enactment of effective legislation to enforce the prohibition amendment to the constitution comes from misguided workingmen who are laboring under the delusion that they can not get along without alcoholic beverages, from labor agitators, and from a few manufacturers who, like Mr. A. F. Shore, whose letter we publish elsewhere in this issue, still think that a moderate amount of alcohol is good for their employees. Mr. Shore contends that the man who toils with his hands needs alcohol more than the brain worker because the former does not experience the same degree of mental exhilaration as a natural result of his vocation. He says that alcohol in moderation relieves mental stress or tedium, that alcohol is more than a medical necessity to human life and that only impure alcohol acts as a nerve paralyzant.

But experience of countless physicians and thorough investigation of the effects of alcohol on the nervous system made by the nutrition laboratory of the Carnegie Institution of Washington have clearly indicated that alcohol is a positive depressant of heart mechanism. Dr. N. S. Ferris of Washington says that "latter day research workers have conclusively demonstrated that alcohol is a depressant, first, last and all the time." At the meeting of the American Medical Association in New York in June, 1917, it was resolved that the use of alcohol as a beverage is detrimental to the human economy, that its use as a tonic or a stimulant, or as a food has no scientific basis and that the association is opposed to the use of alcohol as a beverage and as a therapeutic agent. The American Red Cross has also taken strong stand against the use of alcohol. The evidence is overwhelming and it is surprising that any one tries to defend alcohol from a scientific standpoint.

The attitude of the labor agitators who have

raised the cry "No beer, no work" and have been instrumental in submitting to a large number of labor unions the questions of resisting the enforcement of prohibition by declaring a general strike July 1 are no better than other disturbers in many parts of the world who are encouraging resistance to laws. The constitutional amendment prohibits the manufacture and sale of intoxicating liquor. It is now the plain duty of the Congress of the United States and of the State legislatures to enact laws which make prohibition effective. This will be necessary because the prohibition to be established July 1 or provided by act of Congress as a war measure will need reinforcement, as will also the prohibition provided for by the amendment, effective next January. If, after a fair trial, the people are not satisfied and wish to repeal the amendment, it will be done, but until that time, resistance to the amendment or supplemental laws will be unpatriotic and anarchistic.

The friends of prohibition and good citizens like Mr. Shore should be anxious to give prohibition a fair trial and in order to do so, some substitute for the saloon must be found. The saloon furnishes most workingmen the only thing like club life which they have. The club is to be taken away from them next July. Nearly all manufacturers are glad the saloon is doomed. They can, if they will, lead in establishing clubs or other organizations which will supply the sociability now furnished by the saloon. Nothing could do more to quiet unrest, establish more cordial relations between capital and labor and contribute to the general welfare of the country.

Employers and Employees

Two developments relating to the relations of employers and employees become very interesting when set in juxtaposition, raising rather a new question, whether after all it is entirely to the best interests of the public that employers and employees should get together on the platform that their interests are identical.

Plans taken under consideration by men interested in the building trades, particularly the makers of building material, contemplated the launching of a general campaign to induce the public to engage in the building of dwelling houses. The need for the houses was apparent, and the idea was to make as favorable a showing as possible before the public for the proposition that building costs are not likely to decline materially in the near future. Consideration of the plan received a set-back when it was learned that the artisans engaged in the building trades in one important section at least had already formulated a demand for a 10 per cent wage increase, to become effective upon the termination of the present agreement, May 31. The employers were desirous, in the interest of promoting activity, of seeing costs come down, not of seeing them advance.

Another incident is the very cordial feeling that has arisen between coal operators and their miners in certain districts. The miners have accumulated large funds, which will prove useful in case of a

wage contest with their employers, but their leaders have concluded that such funds can be used to better advantage in a joint strike of operators and miners against the public. The miners, apparently, are not tied down by traditions as to whom they shall strike against, the main thing being to do the striking, and it is understood the operators have been advised that curtailment in production will be welcomed. It will not be regarded as a lockout.

The public, and everyone belongs to the public in one aspect or another, has reason to inquire whether after all it is going to be benefited by employer and employee getting together. That the public has suffered when the two parties fought each other has been a matter of frequent and painful experience, but there is some ground for inquiring whether conditions would be improved in all respects if they agreed, not to bury the hatchet, but in no event to use any hatchets on each other.

These considerations recall a very interesting address delivered in January, 1918, before the Greenock Philosophical Society by W. L. Hichens, chairman Cammell, Laird & Co., Limited. Mr. Hichens took an advanced position and reached certain conclusions, one of which was that in modern industries there are not two parties, labor and capital, but four: Labor, the entrepreneur class, capital and the consumer. The State should then fix the reward to be accorded the producers, having the interest of the consumer in mind.

In all the talk about the lower prices which must come, it is perhaps forgotten that a new condition exists. It is everywhere assumed that we are in the export trade to stay. We are not merely to be interested in foreign markets when a surplus has developed at home and we wish to do some dumping. Assuming that we shall hereafter always be bombarding foreign markets, prices obtaining will necessarily have to recognize the prices of competing nations. British iron and steel prices for export are at the moment 5 to 40 per cent higher than our present scales at Atlantic seaboard and with the dropping tendency of vessel freight rates, ours need not go materially lower to meet successfully foreign competition. It seems clearer that there cannot be periods of great business activity in some spots of the world without these affecting quickly other spots. A reassuring fact, if this be true, is that British iron and steel markets are active compared with our own.

CORRESPONDENCE

Prohibition and Industry

To the Editor: I have read your interesting editorial "Prohibition and Industry" in the IRON AGE of Jan. 23.

I note that you share the views held by a number of industrial men that there is a sound basis for the expectation that the industries of the country would be greatly benefited by national prohibition.

I have made a systematic study of this question from the standpoint of its several angles. In conse-

quence, I am led to believe that in making deductions from the industrial statistics cited, great precaution must be exercised.

The industrial benefits reported have been due to heavy local restrictions on the sale of liquors, part of which should have been imposed in the first place. If Shakespeare were alive to-day, he could doubtless give a satisfactory definition of the whole problem, but for the present it suffices to say that a situation of this kind is probably not comparable in the slightest degree with absolute prohibition.

Labor, unlike head workers who employ and direct it, does not experience the same degree of mental exhilaration through exercise of the faculties and the other delights that come to a satisfied mind at the day's end. Instead, as a general rule, it only exercises part of its faculties, the others remaining comparatively untried and therefore unexhausted.

Since, however, the human brain does not materially differ with the individual, it follows that a kind of unbalance or stress develops at the day's end. This is sometimes referred to as depression, or the agony of tedium. Alcohol in due moderation has the property of relieving this mental stress or tedium.

It can do this with less harm than any other agent known to science except such substitutes as higher education, better illumination, newspapers, moving pictures, etc. As will be seen further on, alcohol can never be fully replaced, and if it were suddenly abolished that would not only serve to undermine our social tranquillity but would develop hitherto unanticipated industrial psychological situations. These would have for their logical sequence, among other things, increased discontent and new demands on capital.

There are those who may disagree with my conclusions with regard to the effect of prohibition on industrial situations and who may take the heavy legislative support it has received as a guarantee of merit, or at all events, it will come to pass and must be reckoned with in future industrial undertakings.

In order that no confidence may thus be misplaced, it may be well to review the chance that national prohibition would have of being sustained in a court inquiry. Naturally it must have some tangible basis of support, or, in other language, a definite reason for its legitimate existence. To be just and validly sustained, it must show invulnerability to attack from, among other sources, those of science and philosophy.

(1) Science—Prohibition as a universal law disregarding extreme differences of climate, racial habits or local industrial environment would have much to explain. Science can prove under its latest discoveries that alcohol is more than a medical necessity to human life but not necessarily to animal life. Also that only impure alcohol acts as a nerve paralyzant upon which the major part of past indictments of this agent has depended.

(2) Morality—Alcohol as a common necessity to human life could not be prohibited under the pretext of morality; only immoderate use could consistently come under this head, and that local authorities obviously can best control.

(3) Religion—The Catholic religion countenances the use of wine. If others prohibit, the Constitution does not provide for the enforcement of religious beliefs or creeds and particularly in a single one for all men.

(4) Social—Society from the earliest time has found the maintenance of peace and order to be very costly, while in behalf of the joy of independence it has ever been prepared to make appalling sacrifices in the support of its Government, as in war. In these instances, there is, of course, no guarantee of victory and less that it is to endure.

As a human necessity, it can be shown that complete prohibition of alcohol by statute would, in the nature of things, never be feasible.

By studying the psychology and physiology of its abuse, the hardships attributed to it could be reduced to a comparatively negligible minimum by but little special legislation. That which would remain would have to be tolerated and charged to society's "inevitable

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sacrifices" account in behalf of individual right and liberty.

(5) Economics—In the broader sense it is an obligation on the part of the Government: (1) to forestall inevitable recourse to illicit distillation by recognizing alcohol as a social necessity; (2) to restrict unwarranted consumption by suitable taxation; (3) through an agency as its revenue service to inspect production and thus guard the public against the poisonous contents of incompetent distillates, as provided for under the food and drug act.

Some of the claims upon which the prohibitionists have based their propaganda usually have a seemingly withering force. For example: "The saloon as an institution is an agency of degradation and profiteering close to full treason and sedition"; "Alcohol, self-control and self-government do not mix and cannot mix," etc.

It must be remembered that these attacks are directed against the weaker side of human nature which, as all reformers know, is in the absence of its logical counsel, psychology, quite defenseless. This gives them the apparent undisputed right of way. In view of this situation, it is doubtful if prohibition could receive much support from the standpoint of advanced psychology.

A. F. SHORE.

555 W. Twenty-second St.,
New York, Feb. 1, 1919.

IRON ORE OUTPUT

Decrease Last Year Attributed Largely to Labor Conditions

WASHINGTON, Feb. 11.—The iron ore output of the United States in 1918 dropped to 69,712,000 gross tons, against 75,288,851 gross tons in 1917, according to the figures which have just been completed by Ernest F. Burchard of the United States Geological Survey.

This represents a decrease of 7.4 per cent. The figures are also below the 1916 records, but as both 1916 and 1917 were high-water periods in the output of iron ore in the United States, and as 1918 conditions included the severest of war labor shortages, the new records are far from discouraging for the industry.

The estimated shipments of ore from the mines in 1918 were 72,192,000 gross tons, valued at \$246,043,000, compared with 75,573,207 tons, valued at \$238,260,444 in 1917. The higher prices prevailing last year account for the fact that despite a drop of 4.5 per cent in the tonnage shipped the valuation figures were 3.3 per cent higher. The average selling value of ore in the United States at the mines, was \$3.41, in 1918, against \$3.15 in 1917. The apparent decrease in stocks at the mines was 23.4 per cent, from 10,628,908 gross tons in 1917 to 8,139,000 tons in 1918.

The decrease in the output, which was general throughout the country, says the report of the Geological Survey, is probably to be attributed to a combination of circumstances. Industrial conditions were more or less disturbed, the supply of labor was uncertain, and transportation facilities were inadequate. Notwithstanding these handicaps the shipments from the Lake Superior district from April to October inclusive, in 1918, were over 2,500,000 tons more than those for the corresponding period of 1917. Owing to a scaling down of furnace requirements, however, to release vessels carrying grain to Europe, the shipments in November and December, 1918, were nearly 4,000,000 tons less than those made in December, 1917. Government control of the entire steel supply, which became effective in June, 1918, undoubtedly regulated the demand for ore and stocks at mines and lower Lake ports were somewhat reduced, so that the consumption of ore remained about the same as in 1917.

The results of the estimate are sufficiently complete to show totals for the principal iron-ore producing States, and by grouping together certain of these States the totals for the Lake Superior district and for certain other geographic units are obtained.

Lake Superior District

About 86 per cent of the iron ore mined and shipped in 1918 came from the Lake Superior district, in which about 60,092,000 gross tons were mined and about 62,285,000 tons were shipped in 1918, compared with 63,666,068 tons mined and 63,854,752 tons shipped in 1917, representing decreases of 5.6 per cent and 2.5 per cent respectively in 1918. The average selling price of iron ore at the mines in the Lake Superior district in 1918 was \$3.50 a ton, compared with \$3.28 a ton in 1917.

The second largest iron-ore producing area—the Southeastern States—which includes the Birmingham district, mined and shipped in 1918 about 10 per cent of the grand total. The quantity mined in these States in 1918 is estimated at 6,906,000 gross tons, compared with 8,333,766 tons mined in 1917, and the shipments in 1918 are estimated at 7,249,000 tons, valued at \$17,405,000, or \$2.40 a ton, compared with 8,396,841 tons, valued at \$16,437,775, or \$1.96 a ton, in 1917.

Northeastern States

The Northeastern States—New Jersey, New York and Pennsylvania—mined in 1918 approximately 1,862,000 gross tons, compared with 2,340,960 tons in 1917, a decrease of 20 per cent, and shipped in 1918 1,821,000 tons, compared with 2,379,393 tons in 1917, a decrease of 23 per cent. The average selling value of the ore in these States in 1918 was \$4.91 a ton, compared with \$4.45 in 1917.

In the Western States—Colorado, New Mexico, Utah and Wyoming—there were mined about 750,000 gross

tons of iron ore in 1918, compared with 832,073 tons in 1917, a decrease of 10 per cent. The shipments in 1918 amounted to approximately 740,000 tons, compared with 832,056 tons in 1917, a decrease of 11 per cent. The average selling value of the ore in this group of States in 1918 was \$1.72 a ton, compared with \$1.39 a ton in 1917.

Shipments, Imports and Exports

The shipments of iron ore by boat during 1918, according to figures compiled by the Lake Superior Iron Ore Association, amounted to 61,156,732 gross tons, and the all-rail shipments to blast furnaces, including those near Duluth, as estimated by the *Iron Trade Review*, amounted to 1,885,000 tons. The Survey figures do not include about 879,000 tons of manganiferous iron ore (ore containing 5 per cent or more of manganese) mined and shipped from the Lake Superior district in 1918.

The imports of iron ore in 1918 amounted to 787,468 gross tons, compared with 971,663 tons in 1917. The imports of pig iron (chiefly ferromanganese and ferro-silicon) were 34,711 gross tons in 1918, compared with 76,786 tons in 1917. The exports of iron ore in 1918 were 1,256,431 gross tons, compared with 1,132,313 tons in 1917, and the exports of pig iron, including a minor quantity of ferromanganese and ferro-silicon, were 269,527 gross tons in 1918, compared with 656,220 tons in 1917.

Foundry Expansion in Southern California

The Pittsburg Foundry Co., Forty-eighth Street and Alameda Avenue, Los Angeles, Cal., started as a general jobbing foundry just 38 months ago, has in that time been forced to move three times to larger quarters, and to double the floor space of its present location within the past twelvemonth. It is specializing on gray-iron castings up to 25 ton weight, most of the work done at the present time being 14-ton castings for ship engines for steamers building for the Emergency Fleet Corporation. Two cupolas, one of 50 tons' and one of 20 tons' capacity, are run on Eastern pig iron with Eastern coke and the iron is poured from ladles up to 23,000-lb. capacity, served by two 15-ton cranes, running on two 300-ft. bridges, with runway 50-ft. centers, flanked by two 25-ft. runways. A spur track connects with the various railroads running into Los Angeles. The average payroll comprises 85 men. Two features which add to the attractiveness of a foundry business in this vicinity are the excellence of the local molding sand and the absence of a molders' union. F. E. Burger, an Eastern foundryman of wide experience, is president.

The Keystone Iron & Steel Works, Los Angeles, now located at 973 North Main Street, is starting the erection of a new plant to cover the larger portion of a 7-acre plot on Santa Fé Avenue near Twenty-fifth Street. Steel, iron and bronze castings are made in connection with its regular line of oil-well drilling machinery, pumps and tools.

The British Iron and Steel Trades

British iron and steel interests are convinced that they can produce iron products more cheaply than any other country, according to the American Chamber of Commerce in London. The end of the war finds Great Britain with a steel producing and manufacturing capacity something like 60 or 70 per cent larger than at the beginning. Their chief pre-war competitor was Germany, whom they believe they have removed from the field for a time at least. Twenty years ago Britain exported four times as much iron and steel as Germany; in the last year before the war the Germans exported a million tons more than Great Britain. It is believed in England that American productive costs are too high to permit of really successful competition with Britain in neutral markets, and that the United Kingdom will be able to maintain first place if it gets assistance from the State, and no trouble from labor. Great extensions of plant are under way. One concern is proposing to cover 350 acres with new iron and steel producing plant, with a view to an output of 20,000 tons per week.

Pittsburgh and Nearby Districts

The very favorable weather so far this winter has allowed work on the new Koppers by-product plant being built by the Jones & Laughlin Steel Co., Pittsburgh, by the H. Koppers Co., to progress very fast. It is now expected that the 300 Koppers ovens comprising this plant will be ready for operation not later than May 1, and the output of coke is expected to reach 2,000,000 tons per year. This will be sufficient coke to operate the six Eliza blast furnaces and the Soho blast furnace of the Jones & Laughlin Steel Co. at Pittsburgh. The four Aliquippa blast furnaces of the company at Aliquippa, Pa., have their own coke plant, built shortly after the furnaces were erected. The Jones & Laughlin Steel Co. coke plant at Pittsburgh will be about the fifth largest in the country. The largest Koppers by-product plant in the country is that of the Carnegie Steel Co. at Clairton, Pa., which will eventually have 768 ovens. The Gary Steel Co., at Gary, Ind., has 700 Koppers ovens, the Lehigh Coke Co., a subsidiary of the Bethlehem Steel Co. has 424 Koppers ovens at Bethlehem, while the Sparrows Point works of the Bethlehem Steel Co. will have 380 Koppers ovens.

Stockholders of the Sharon Steel Hoop Co. have re-elected Severn P. Ker, president; George W. Short, vice-president; J. Reid Evans, secretary and treasurer. The following directors were chosen: Severn P. Ker, J. Reid Evans, George W. Short, of Sharon, Harry T. Gilbert of Chicago, Fred G. Perkins and J. F. Byers of Pittsburgh and Henry Garlick of Youngstown, Ohio.

The Beckwith Machine Co., North Side, Pittsburgh, has opened an office and warehouse in Cleveland, where it will carry a complete stock of mine, mill and construction equipment. E. G. Stoner, formerly in the Pittsburgh office, has been made district manager at Cleveland. C. Z. Dally will be Mr. Stoner's assistant in Cleveland, formerly being city sales agent in Pittsburgh.

The National Vehicle Equipment Association held its annual meeting in the William Penn Hotel, Pittsburgh, last week. This organization is composed of companies engaged in the manufacture of farm vehicles and tools. S. W. McCullough, national secretary, said the purpose of the organization to maintain practically the same line of products as indicated by the War Industries Board during the war, and it is aimed to keep the manufacturers from drifting back into the old lines of many varieties, 50 per cent of which the agriculturist does not need. He said that the manufacture of about one-half the varieties would lead to economy in the production cost, giving the farmer in the course of time, cheaper implements. L. N. Burns, Racine, Wis., president of the association, presided.

The Sligo Iron & Steel Co., Connellsville, Pa., maker of merchant iron and steel products, recently set aside \$10,000 for additions to equipment which are now being installed. These consist of a mono-rail crane, large storage and mechanical equipment for handling it, a building, 70 by 100, with bridge crane, new mechanical cooling bed on 9 and 16-in. mill, improving shearing equipment on plate mill, enlarging plate mill from 66-in. mill, crane for unloading steel, crane for rolling mills, new shears in scrap department, new water pumps, installing larger steam main, and mechanical nipper shears on 9 in. mill. Other improvements are under way which will make this plant modern throughout. The Sligo Iron & Steel Co. is one of the best companies in the country rolling iron bars, the business having been originally established in Pittsburgh in 1823 under the name of Phillips, Nimick & Co., who operated the Sligo Rolling Mills. Some years ago the business was moved from the South Side, Pittsburgh, to Connellsville, Pa. W. P. Mullane is general superintendent.

The net profits of the Studebaker Corporation for nine months ending Oct. 1 of last year were \$3,212,700 after all the usual deductions. Inventory shows stock of finished automobiles on hand. In reference to quick asset position the ratio stood 27.6 per cent all liabilities on Oct. 1. The present bank balance of the corporation exceeds \$3,500,000.

Steel Ingot Output in January

The production of steel ingots in January, according to statistics compiled by the American Iron and Steel Institute from reports submitted by 29 companies which made about 85.10 per cent of the steel ingots produced in 1917, was 3,082,427 gross tons. This compares with 2,203,845 tons in January, 1918. It also shows a small increase over the output in December of about 50,000 of both open-hearth and Bessemer steel respectively. The January output is at the rate of 43,047,585 tons of ingots per year. The table below gives the ingot production of these 29 companies for the past 18 months:

| Monthly Production of Steel Ingots—Gross Tons | | | | |
|---|-------------|-----------|-----------|-------------|
| | Open-Hearth | Bessemer | All Other | Total |
| August, 1917..... | 2,251,013 | 863,873 | 8,331 | 3,123,217 |
| September | 2,195,556 | 770,064 | 6,639 | 2,972,259 |
| October | 2,475,754 | 870,494 | 5,687 | 3,351,935 |
| November | 2,384,218 | 772,489 | 9,550 | 3,166,257 |
| December | 2,195,832 | 524,084 | 13,806 | 2,733,722 |
| January, 1918 | 1,763,356 | 429,588 | 10,901 | 2,203,845 |
| February | 1,805,233 | 454,457 | 14,051 | 2,273,741 |
| March | 2,331,048 | 763,255 | 16,078 | 3,110,381 |
| April | 2,377,974 | 769,249 | 16,187 | 3,163,410 |
| May | 2,475,131 | 796,244 | 15,858 | 3,287,233 |
| June | 2,281,718 | 786,380 | 15,348 | 3,083,446 |
| July | 2,311,545 | 784,997 | 17,093 | 3,113,635 |
| August | 2,229,177 | 766,860 | 17,643 | 3,083,680 |
| September | 2,407,993 | 772,863 | 16,802 | 3,197,658 |
| October | 2,527,776 | 807,043 | 17,377 | 3,352,196 |
| November | 2,291,720 | 753,409 | 15,631 | 3,060,760 |
| December | *2,273,189 | *706,844 | 12,273 | *2,992,306 |
| January, 1919 | 2,325,802 | 749,346 | 7,279 | 3,082,427 |
| Total 1918 | 27,145,860 | 8,591,189 | 185,242 | †35,922,291 |

*Revised.

†Estimated output for 1918 is 42,212,000 tons.

Canadian Car & Foundry Co. Changes

Several changes were made in the management of the Canadian Car & Foundry Co., Montreal, Que., at the annual meeting. The president, Senator N. Curry, retired to become chairman of the board, a new office, and was succeeded by the vice-president and general manager, W. W. Butler. J. Frater Taylor, chairman of the Lake Superior Corporation, was chosen vice-president in charge of finance, and R. H. Parks, vice-president, with the title of general manager, in charge of the plants of the company. The following were chosen as members of the executive: W. F. Angus, H. W. Beauchlerk, Senator Beaubien, K. W. Blackwell, and Mark Workman. F. A. Skelton has resigned from the position of secretary-treasurer, and Mr. Taylor, the new vice-president, will take up his duties in the immediate future.

Just when existing contracts were being concluded and loss of activity was threatened, the Canadian National Railways placed an order with the Canadian Car & Foundry Co. for 500 stock cars, 250 ballast cars, 150 refrigerator cars, 100 colonist cars, and 30 baggage cars, a total of 1030. These new orders will be distributed among the three plants of the company, at Fort William, Montreal and Amherst. The passenger cars, it is stated, will keep the plant employed until midsummer and the freight cars until the end of May. These orders will tend to give employment to many of the men who were engaged in munitions, but were let out in November and early in December. The Canadian Car & Foundry Co. is in the fortunate position of being able to manufacture most of the parts as well as assemble the cars.

Will Sell Becker Steel Co. Shares

On Feb. 20 2500 shares of the capital stock of the Becker Steel Co. of America, Charleston, W. Va., will be offered for sale to the highest bidder by A. Mitchell Palmer, alien property custodian. This company was taken over by the Government in July last year.

The Cambria Steel Co., Johnstown, Pa., a subsidiary of the Midvale Steel & Ordnance Co., has discontinued all overtime at its plants, some mills working only 16 hours out of 24, owing to lack of orders. The company blew out one blast furnace last week, and another stack that has been relined and repaired, and ready for operation, is still out of blast.

Iron and Steel Markets

PRESENT PRICES A CHECK

Regarded as Too High to Lead to Negotiation

'Automobile Trade the Buyer—Export Sales of Pig Iron—Coke Lower

Further cutting of prices is now being admitted by producers as necessary to kindle the interest of buyers. The conclusion reached is that lack of important inquiry in the past nine weeks of open market conditions is in part due to maintaining a level of prices too high to encourage barter. How to get labor to recognize its part in the adjustment is the problem.

The low total of the present inflow of emergency orders points to shutdowns here and there in two or three months' time. In the severity of such happenings, a rewriting of costs would be possible. Whether the trade conferences proposed by the Secretary of Commerce could before then develop understandings looking to establishing prices likely to attract depends largely on securing official sanction and the broad co-operation of the manufacturers and the steel workers.

Meanwhile the buying elements need to remember that the country is proceeding on the theory that it is no longer an isolated nation. Fixed iron and steel export prices of England, its chief competitor for the world's markets, are anywhere up to 40 per cent higher than its own, and only relatively slight shifts in ocean freight charges will serve to throw the advantage to these shores. Foreign trade requires little concession, so long as England's costs do not come down.

A sale of 4000 tons of pig iron is noted for export and Cleveland reports an inquiry for 5000 tons for China. On 300 tons a cut of \$1.80 from \$31 per ton was made by an Eastern furnace, but 3000 tons for Italy was withdrawn on the price account. The districting of furnaces instituted in the period of Government operation for equalization of selling opportunity is passing out and the old order is being restored.

The demand of the automobile trade is the outstanding feature of the domestic market. Sheet mills are running at 75 per cent of capacity and mostly for motor cars and trucks. Some of the alloy steel makers are booked full for six weeks, though the early January operations were only 25 per cent of capacity.

Electrical sheets for France, taking 60 days' output, have been placed with the American Sheet & Tin Plate Co. Some of the tin plate mills are being worked at full capacity, largely on contracts carried over from last year.

Steel ingot production for January, as estimated by the American Iron and Steel Institute, was 3,082,427 tons, or 90,000 tons more than December. In the light that the Steel Corporation's bookings were reduced 694,884 tons in the same period and are now at figures which obtained when the European war demand was accumulating in the fall of

1915, it is to be expected that open-hearth furnace operations will be reduced.

Some test of market ideas will be made on Feb. 18, when bids will be received against a Navy inquiry for 16,000 tons of material, mostly plates and shapes. Surprise is shown over a request from the Navy for 20,000 kegs of wire nails, as the War Department is supposed to have on hand 160,000 kegs. A large Detroit truck maker is also sounding the market on bar and structural mill products to the extent of 15,000 tons.

Improvement is noted in the cast-iron pipe market, and indicates municipal activity which may be in response to demands to prevent unemployment. Toledo and Minneapolis have placed orders for 1000 and 600 tons respectively, and Detroit, Bayonne, N. J., Denver, Akron and Chicago are in the market for tonnages varying from 225 to 2000.

Surplus production of coke, because of curtailed furnace and foundry operations and the need of moving it, has resulted in cuts of 75c. and \$1 per ton, prompt furnace coke selling at \$4.25.

A demand is being fostered for shell steel rolled into bars to be sold at a 2.50c. basis, and, of course, as hard steel.

Every important market center mentions resale transactions and negotiations, a commentary on the volume of Government material pressing on the market more or less all the time.

Pittsburgh

PITTSBURGH, Feb. 10.

To use an old expression, the steel trade is still marking time, and how long this will continue is a question. In any event, there is not yet any sign of a general buying movement on the part of either jobbers or consumers, both still confining purchases almost entirely to small lots of material to meet current needs or to complete stocks. In several lines, however, demand is better than expected, this referring especially to sheets and tin plate in the past two or three weeks. While none of the sheet mills is operating full, most of them are running at least to 75 per cent of capacity. The tin plate mills are running at probably 75 per cent on the average, but several of the larger concerns are running close to 100 per cent. In other products such as pig iron, billets and sheet bars, very little new business is being put up to producers and there continues to be a slowing down in operations of blast furnaces and steel mills.

Demand for pipe is fairly active for lap weld sizes but some of the lighter steel lines are very quiet. Finishing mills probably have enough work ahead based on the present rate of operations to carry them through March, but starting April 1 there is not much business booked ahead. It seems to be the purpose of the mills that if they cannot get enough business at present prices they will close down until the accumulation warrants starting again. The leading steel companies believe that to lower prices still more would simply add to the hesitation of the jobber or consumer and cause him to hold off placing business.

The labor situation is giving some anxiety, but so far as can be learned there has not been any direct cut in wages at any blast furnaces or steel plants in this district. Extra work for which overtime has to be paid is being cut out everywhere, and reports from several

A Comparison of Prices

Advances Over the Previous Week in Heavy Type, Declines in Italics

At date, one week, one month, and one year previous

For Early Delivery

| Pig Iron. | Feb. 11, Feb. 4, Jan. 14, Feb. 13, | | | |
|-----------------------------|------------------------------------|---------|---------|---------|
| | 1919 | 1919 | 1919 | 1918 |
| Per Gross Ton: | | | | |
| No. 1, Philadelphia... | \$36.15 | \$36.15 | \$36.15 | \$34.25 |
| No. 2, Valley furnace... | 31.00 | 31.00 | 31.00 | 33.00 |
| No. 3, Southern, Ch'tt... | 34.60 | 34.60 | 34.60 | 35.90 |
| No. 4, Birmingham, Ala... | 31.00 | 31.00 | 31.00 | 33.00 |
| No. 5, furnace, Chicago... | 31.00 | 31.00 | 31.00 | 33.00 |
| Basic, del'd, eastern Pa... | 33.90 | 33.90 | 33.90 | 33.75 |
| Basic, Valley furnace... | 30.00 | 30.00 | 30.00 | 33.00 |
| Bessemer, Pittsburgh... | 33.60 | 33.60 | 33.60 | 37.25 |
| Malleable, Ch'go... | 31.50 | 31.50 | 31.50 | 33.50 |
| Malleable, Valley... | 31.50 | 31.50 | 31.50 | 33.50 |
| Gray forge, Pittsburgh... | 31.40 | 31.40 | 31.40 | 32.75 |
| L. S. charcoal, Chicago... | 38.85 | 38.85 | 38.85 | 37.50 |

| Rails, Billets, Etc., | Feb. 11, Feb. 4, Jan. 14, Feb. 13, | | | |
|--------------------------------|------------------------------------|---------|---------|---------|
| | 1919 | 1919 | 1919 | 1918 |
| Per Gross Ton: | | | | |
| Bess. rails, heavy, at mill... | \$55.00 | \$55.00 | \$55.00 | \$55.00 |
| O-h. rails, heavy, at mill... | 57.00 | 57.00 | 57.00 | 57.00 |
| Bess. billets, Pittsburgh... | 43.50 | 43.50 | 43.50 | 47.50 |
| O-h. billets, Pittsburgh... | 43.50 | 43.50 | 43.50 | 47.50 |
| O-h. sheet bars, P'gh... | 47.00 | 47.00 | 47.00 | 51.00 |
| Forge billets, base, P'gh... | 56.00 | 56.00 | 56.00 | 60.00 |
| O-h. billets, Phila... | 47.50 | 47.50 | 47.50 | 50.50 |
| Wire rods, Pittsburgh... | 57.00 | 57.00 | 57.00 | 57.00 |

| Finished Iron and Steel, | Feb. 11, Feb. 4, Jan. 14, Feb. 13, | | | |
|-------------------------------|------------------------------------|-------|-------|-------|
| | 1919 | 1919 | 1919 | 1918 |
| Per Lb. to Large Buyers: | | | | |
| Iron bars, Philadelphia... | 3.145 | 3.145 | 3.145 | 3.685 |
| Common iron bars, P'gh... | 3.50 | 3.50 | 3.50 | 3.50 |
| Common iron bars, Ch'go... | 2.97 | 2.97 | 3.17 | 3.50 |
| Steel bars, Pittsburgh... | 2.70 | 2.70 | 2.97 | 2.90 |
| Steel bars, New York... | 2.97 | 2.97 | 2.97 | 3.095 |
| Tank plates, Pittsburgh... | 3.00 | 3.00 | 3.00 | 3.25 |
| Tank plates, New York... | 3.27 | 3.27 | 3.27 | 3.445 |
| Beams, etc., Pittsburgh... | 2.80 | 2.80 | 2.80 | 3.00 |
| Beams, etc., New York... | 3.07 | 3.07 | 3.07 | 3.195 |
| Strip, grooved steel, P'gh... | 2.70 | 2.70 | 2.70 | 2.90 |
| Strip, sheared steel, P'gh... | 3.00 | 3.00 | 3.00 | 3.25 |
| Steel hoops, Pittsburgh... | 3.30 | 3.30 | 3.30 | 3.50 |

| Sheets, Nails and Wire, | Feb. 11, Feb. 4, Jan. 14, Feb. 13, | | | |
|--------------------------------|------------------------------------|------|------|------|
| | 1919 | 1919 | 1919 | 1918 |
| Per Lb. to Large Buyers: | | | | |
| Sheets, black, No. 28, P'gh... | 4.70 | 4.70 | 4.70 | 5.00 |
| Sheets, galv., No. 28, P'gh... | 6.05 | 6.05 | 6.05 | 6.25 |
| Wire nails, Pittsburgh... | 3.50 | 3.50 | 3.50 | 3.50 |
| Cut nails, Pittsburgh... | 5.00 | 5.00 | 5.00 | 4.00 |
| Fence wire, base, P'gh... | 3.25 | 3.25 | 3.25 | 3.25 |
| Barbed wire, galv., P'gh... | 4.35 | 4.35 | 4.35 | 4.35 |

| Old Material, | Feb. 11, Feb. 4, Jan. 14, Feb. 13, | | | |
|-----------------------------|------------------------------------|---------|---------|---------|
| | 1919 | 1919 | 1919 | 1918 |
| Per Gross Ton: | | | | |
| Carwheels, Chicago... | \$23.00 | \$23.00 | \$26.00 | \$30.00 |
| Carwheels, Philadelphia... | 23.00 | 23.00 | 25.00 | 30.00 |
| Heavy steel scrap, P'gh... | 15.00 | 15.00 | 20.00 | 30.00 |
| Heavy steel scrap, Phila... | 15.00 | 16.00 | 18.00 | 30.00 |
| Heavy steel scrap, Ch'go... | 15.00 | 15.00 | 16.50 | 30.00 |
| No. 1 cast, Pittsburgh... | 19.00 | 19.00 | 25.00 | 30.00 |
| No. 1 cast, Philadelphia... | 23.00 | 23.00 | 24.00 | 30.00 |
| No. 1 cast, Ch'go (net ton) | 19.50 | 19.50 | 22.00 | 26.00 |
| No. 1 RR. wrot, Phila... | 23.00 | 23.00 | 24.00 | 35.00 |
| No. 1 RR. wrot, Ch'go (net) | 15.00 | 15.50 | 18.50 | 31.25 |

| Coke, Connellsville, | Feb. 11, Feb. 4, Jan. 14, Feb. 13, | | | |
|-------------------------|------------------------------------|--------|--------|--------|
| | 1919 | 1919 | 1919 | 1918 |
| Per Net Ton at Oven: | | | | |
| Furnace coke, prompt... | \$4.25 | \$5.00 | \$6.00 | \$6.00 |
| Furnace coke, future... | 6.00 | 6.00 | 6.00 | 6.60 |
| Foundry coke, prompt... | 5.00 | 5.00 | 7.00 | 7.00 |
| Foundry coke, future... | 7.00 | 7.00 | 7.00 | 7.00 |

| Metals, | Feb. 11, Feb. 4, Jan. 14, Feb. 13, | | | |
|---------------------------------|------------------------------------|--------|--------|--------|
| | 1919 | 1919 | 1919 | 1918 |
| Per Lb. to Large Buyers: | | | | |
| Lake copper, New York... | 18.50 | 19.50 | 20.50 | 23.50 |
| Electrolytic copper, N. Y... | 18.00 | 18.75 | 20.50 | 23.50 |
| Spelter, St. Louis... | 6.50 | 6.35 | 7.25 | 7.75 |
| Spelter, New York... | 6.85 | 6.70 | 7.60 | 8.00 |
| Lead, St. Louis... | 4.70 | 4.75 | 5.50 | 6.85 |
| Lead, New York... | 5.00 | 5.05 | 5.75 | 7.00 |
| Tin, New York... | 72.50 | 72.00 | 71.50 | 85.00 |
| Antimony (Asiatic), N. Y... | 7.25 | 7.50 | 7.75 | 13.75 |
| Tin plate, 100-lb. box, P'gh... | \$7.35 | \$7.35 | \$7.35 | \$7.75 |

*The average switching charge for delivery to foundries the Chicago district is 50c. per ton.
 †Silicon, 1.75 to 2.25. ‡2.25 to 2.75, silicon.

large employers of labor are to the effect that efficiency among their men is very much greater now than it was during war times. One company that during the war was employing about 200 men now has less than 100 on its payrolls, and yet claims it is getting out almost as much material as it was before. At a few small plants labor is being paid as low as \$3 per day, but this is about from the fact that these men agreed to work at this price rather than be idle.

The withdrawal of the proposed uniform steel contract did not excite much comment here. Efforts on the part of consumers to have their sources of supply guarantee prices against decline are quickly refused. In preference to this, the mills advocate to such consumers that they buy only such quantities of materials as their needs demand.

Pig Iron.—The local market is almost dormant, the inquiry being for a few small lots of basic and foundry iron that are wanted for prompt shipment. Furnaces continue to go out of blast for relining and repairs during this dull period. Some merchant furnace operators state that in view of present high costs they cannot be much decline in prices of iron until present costs are materially lower. It is said that to the merchant furnaces actual cost of making Bessemer and basic iron, and also probably foundry, is very close to, or all of, \$30 per ton at furnace. The heavy decline in prices of coke, which is now nearly \$2 per ton lower than the Government price, may help out some of these furnaces, but others have contracts for the at the Government price of \$6, which run into thousands. Stocks of iron at furnaces are reported light, and the preference is to blow out rather than pile up at present high costs. It is said regular prices are being firmly held, and we quote these as follows:

Basic pig iron, \$30; Bessemer, \$32.20; gray forge, \$30; foundry, \$31; No. 3 foundry, \$30.50; and malleable, all per gross ton at Valley furnace, the freight rate delivery in the Cleveland and Pittsburgh districts being 1c. per ton.

Ferrous alloys.—It is said some large consumers of ferromanganese and ferrosilicon are fully covered for

nearly all of this year, while consumers of lower grades of ferrosilicon are covered for first half of this year on contracts made in December and January, prices to be adjusted from month to month, should the market decline. A good deal of resale ferromanganese, and also some 50 per cent ferrosilicon, is being offered in this market on the basis of about \$200 for 70 per cent ferromanganese, or possibly a little less, and about \$125 for 50 per cent ferrosilicon. We do not hear of any sales of moment of ferroalloys of any kind in the past week or two.

We quote 70 per cent ferromanganese at \$190 to \$200, delivered, and 16 to 18 per cent spiegeleisen, \$60, f.o.b. furnace, an addition or deduction of \$3.50 per unit being made, when the manganese content is above or below the standard. Fifty per cent ferrosilicon is quoted at \$125.

We quote 9 per cent Bessemer ferrosilicon at \$52; 10 per cent, \$54; 11 per cent, \$57.30; 12 per cent, \$60.60. We quote 6 per cent silvery iron, \$39; 7 per cent, \$40; 8 per cent, \$42.50; 9 per cent, \$44.50; 10 per cent, \$47. Three dollars per gross ton advance for each 1 per cent silicon for 11 per cent and over. All the above prices are f.o.b. maker's furnace, Jackson or New Straitsville, Ohio, these furnaces having a uniform freight rate of \$2.90 per gross ton, for delivery in the Pittsburgh district.

Billets and Sheet Bars.—The local semi-finished steel market is dull, and there is no new inquiry either for billets or sheet bars. Several large dealers say they do not believe any new business could be secured even at a cut of \$5 per ton or more in prices. Some resale steel is being offered at slightly lower than mill prices, but the quantity is relatively small. Shipments of bars to sheet and tin plate mills are heavier, as these mills are running at a larger gait than three or four weeks ago.

We quote 4 x 4 in. soft Bessemer and open-hearth billets at \$43.50, sheet bars \$47, slabs \$46, and forging billets \$56 base, all f.o.b. at mill, Pittsburgh or Youngstown.

Structural Material.—Absolutely no new inquiry is coming into this market, and the situation as regards new business being booked by local fabricators is about as quiet as it could possibly be. Some fabricating plants are operating only to 40 to 50 per cent, working on contracts placed some time ago, and with very little

new business in sight. No new work is projected in this district, in the near future at least, and capital is indifferent about going into projects requiring large quantities of steel on account of high labor and material costs. It is expected the railroad demand will be heavy before long, especially if the Railroad Administration carries out its program of railroad betterments. This program is said to involve the erection of a number of steel bridges, also rebuilding present structures, making them larger and stronger. None of the fabricating shops has work for more than 60 days on about a 50 per cent operation, and a few plants say they will clean up contracts on hand by April 1 or before.

We quote beams and channels up to 5 in. at 2.80c. at mill, Pittsburgh.

Plates.—Conditions as regards orders will be fully understood when it is noted that some mills are in position to take orders and ship out within a week or 10 days. The amount of business coming in is very small and some are down to a 50 per cent operation. Hopes are held out that the reconstruction program of the Railroad Administration will develop into actual business before long, and this means a great many cars and locomotives that will require large quantities of plates. It is said the stocks of plates at most of the shop yards are very heavy, and shipments are being held up to some extent. We quote sheared plates ¼ in. and heavier at 3c. per lb. at mill.

Iron and Steel Bars.—It is said that prices on steel bars are being firmly held at 2.70c., Pittsburgh, rolled from billets in spite of the light demand that has obtained for some time. In regard to common iron bars the situation is puzzling. Local mills claim they are adhering to the 3.50c. price for nearby delivery, but there seems to be no question that iron bars have been offered on the basis of 2.70c., Pittsburgh, for Western shipment to meet competition of Western mills, and at 2.90c., Pittsburgh, to meet prices being named by Eastern mills. The amount of new business being placed in iron bars is very small and the mills are getting short of work, having very few orders ahead.

We quote soft steel bars rolled from billets at 1.70c.; from old steel rails, 2.80c.; common iron bars, 3.50c.; bar iron rolled from selected scrap, 5.25c., and refined iron bars at 5c. at mill, Pittsburgh.

Sheets.—Orders for sheets are coming in from the automobile trade freely, and this business probably represents fully 90 per cent of the new orders being taken by the mills. It is predicted that this summer there will be a shortage in the supply of sheets for the automobile trade, but there are some who do not take this view of the market. The American Sheet & Tin Plate Co. has received a large order for electrical sheets from the French Government that will take its entire output for about 60 days. The general demand for sheets is better than the mills expected, and the rate of operation among mills is heavier now than a month ago. Last week the American Sheet & Tin Plate Co. operated all week to over 80 per cent on 15 turns, and the independent mills from 65 to 70 per cent. It is stated that prices on sheets are being firmly held, and that there is no cutting except in a few isolated places, mostly by jobbers who desire to move their stocks. Prices on sheets, which are said to be firmly held, are given in detail on page 460.

Tin Plate.—While very few new orders are being placed, and these are mostly for small lots for prompt shipment, specifications against contracts placed for delivery in second half of last year, but on which the mills were unable to complete shipments, are coming in freely. All the tin plate mills carried over a good deal of tonnage from last year, and consumers are now taking this out more promptly than the mills expected they would. Few contracts have been made for first half of this year's shipment, as with their heavy stocks consumers of tin plate say there is no urgency in placing new contracts, and, in addition, they are not assured that the \$7.35 price will be firmly held. At any rate prices are firm now, the mills claiming they are not selling a pound of tin plate below the regular market. Export inquiry is fairly active and the tin

plate mills look for large export business this year, provided ocean freights are allowed that will permit them to compete with the Welsh mills. Last week the American Sheet & Tin Plate Co. operated to somewhat over 90 per cent of capacity, while independent mills are running to from 50 to 75 per cent. We quote tin plate for domestic use and for delivery in first half of this year at \$7.35 per base box, Pittsburgh. Prices onterne plate are given on page 460.

Wire Rods.—Mills continue to report a fairly active domestic inquiry, and there is also some export inquiry. Several companies that ordinarily do not sell rods in the open market are quoting on these inquiries owing to dull demand for nails and wire, which does not permit them to operate their nail and wire mills to more than about 50 per cent. We note a sale of 500 tons of No. 5 soft rods for export at about the domestic price, which is \$57, Pittsburgh, and also a sale of about 400 tons of soft rods for domestic use at the regular price of \$57 at mill. It is said prices on rods are being firmly held. Rod mills in this district are operating at 40 to 50 per cent of capacity and there is a full supply of steel. It is likely that if the rod mills continue to name close to domestic price on export inquiry a good deal of business may result. Prices on different grades of rods are given on page 460.

Wire Products.—Bids close on Feb. 19 for the 20,000 kegs or more of wire nails inquired for by the Navy Department, and which are to meet the needs of the different Government Navy yards up to June 30. The inquiry specifies 6000 kegs for the Norfolk Navy yard and smaller quantities for the other yards. Mills are quoting the regular price of \$3.50 base on this inquiry, but cannot understand why the Navy Department is not furnished these nails by the War Department, which reported recently it had close to 160,000 kegs of wire nails on hand. The general demand for wire nails is light, being only for small lots to meet current needs of consumers, or to round out stocks of jobbers. It is said prices are being firmly held, except in a few districts, where some shading, both in wire nails and wire, is being done. The demand from the railroads is fair, but usually only for small lots of wire nails for use in repair work. One leading mill reports it is operating at about 50 per cent, and another at 40 per cent, and the average rate of operation of the wire nail and wire mills is probably about 50 per cent. At the present rate at which new business is coming in, the mills have very little ahead of them beyond the latter part of March. Prices on wire products are given in detail on page 460.

Hot-Rolled Strip Steel.—Mills continue to report the demand as only fair, being for small lots to meet current needs, consumers not desiring to make contracts for delivery ahead, owing to the uncertainty as to whether present prices will hold. Consumers are specifying on contracts placed last year on which shipments have not been completed.

We quote hot-rolled strip steel, as made by hoop and band mills, at 3.30c. per lb., while for deep stamping or drawing quality steel, 50c. per 100 lb. extra is charged, all f.o.b. Pittsburgh.

Cold-Rolled Strip Steel.—The demand is only for small lots to meet current needs, and none of the mills making cold-rolled strip steel is operating full. Most of the demand at present is said to be from the automobile trade, and specifications are coming in at a fair rate on contracts made last year, on which prices were readjusted to the present basis.

We quote cold-rolled strip steel at \$6.25 base per 100 lb. f.o.b. Pittsburgh, for 1½-in. and wider, 0.100 in. and thicker, hard tempered in coils under 0.20 carbon. Boxing charge 25c. per 100 lb.

Nuts and Bolts.—It develops that the expected order from the Government for 1,000,000 bolts, 7/8 x 3 in. for the Hog Island shipbuilding yard, will not be placed, as the Government has decided to continue using heat-treated bolts instead of ordinary bolts, which did not meet the purpose desired. The contract for 1,000,000 heat-treated bolts was placed some time ago with an Eastern concern, which will fill it. The new demand for nuts and bolts is quiet, being only for small lots

to meet actual needs. None of the jobbers or consumers is making contracts, owing to the doubt as to whether present prices will hold. Several makers report they are still running full, but at the rate new orders are coming in they have not much business ahead beyond the latter part of March. A meeting of the Institute of Manufacturers of Nuts, Bolts and Rivets is to be held in its rooms in the Oliver Building, Pittsburgh, on Wednesday, Feb. 19, at which time existing conditions in the trade will be fully discussed. Reports are that some shading is being done in prices on nuts and bolts in certain sections. Discounts are given on page 460.

Rivets.—The demand is light and only for small lots to meet actual needs. Makers of rivets are able to operate only to about 50 per cent of capacity, owing to the light demand. Consumers are not making contracts, as they believe that prices may be lower.

We quote button head structural rivets at \$4.40 and cone head boiler rivets at \$4.50 base, f.o.b. Pittsburgh.

Shafting and Screw Stock.—It is said the present demand for shafting, which is only for small lots to meet current needs, is not more than 35 to 40 per cent of capacity. Orders from the automobile trade are fairly active, but from the implement trade are light. None of the makers of shafting is operating to more than 50 to 60 per cent of capacity, consumers not being satisfied that present prices will hold, and are not inclined to make contracts.

We quote cold-rolled shafting at 20 per cent off list in carloads and 16 per cent in less than carloads, f.o.b. Pittsburgh.

Spikes.—Some small inquiry for spikes is in the market from railroads for repair work, but no contracts are being made, the Railroad Administration at Washington having forbidden purchasing agents to make contracts for any large quantities. Makers report the demand for boat spikes as being fairly active. None of the makers of spikes is operating full on account of lack of orders. It is stated that prices are being held.

We quote standard spikes, 9/16 x 4 1/2 in., at \$3.65, and small spikes at the same price in carload lots of 200 kegs or more at \$3.65 per 100 lb., plus usual extras. We quote boat spikes at \$5.00 base per 100 lb. plus usual extras in carload lots of 200 kegs or more, all f.o.b. Pittsburgh.

Hoops and Bands.—Makers report the demand quiet and only for small lots to meet current needs of consumers, or to complete stocks of jobbers. Specifications are coming in on contracts placed last year on which shipments were delayed on account of the heavy Government demand for war materials. Mills rolling hoops and bands are operating only to 50 to 60 per cent, on account of light demand.

We quote steel hoops and bands at 3.30c. base, with the usual extras.

Wrought Pipe.—Mills rolling iron and steel pipe refer to the present conditions as being more satisfactory than a month ago. The demand for lap-weld sizes is heavy and mills have rollings ahead for a month to six weeks. There is also a very active demand for oil country goods, on which some mills cannot make deliveries earlier than four to six weeks. The inquiries of the Cosden Co. for 300 miles of 8-in. pipe and that of the Sinclair Oil & Refining Co. for 200 miles of 8-in. pipe are still active in the market, and are expected to be closed at any time. There is no demand for butt-weld pipe, but it is stated that discounts are being firmly held. Pipe mills are operating at about 80 per cent. It is said one large order was offered to a mill recently at a cut of 2 1/2 per cent from the regular price, and was very promptly turned down. Discounts in effect on iron and steel pipe are given on page 460.

Boiler Tubes.—Mills continue to report the demand for iron and steel tubes as only fair, jobbers and consumers buying only in small lots to meet actual needs. It is stated that discounts are being firmly held, and mills rolling iron and steel tubes are operating at from 60 to 75 per cent. The reconstruction program of the

Railroad Administration includes several hundred locomotives, and if this business is placed, it will mean orders for a very large quantity of tubes. Discounts on iron and steel tubes are given on page 460.

Coke.—Conditions in the coke trade seem to be going from bad to worse. A great deal of coke that was loaded on cars had to be moved to save demurrage charges, and in order to allow ovens to close down, is being sold at very low prices. It is said that late in January some contracts for standard furnace coke were made at \$5 to \$5.50, shipments to run through February, and these are still operative. Forced sales of standard furnace coke have been made as low as \$4.25 per net ton at oven, but it is a question whether a contract for any specific amount of coke could be made at this price. The general asking price on standard furnace coke is about \$5 per net ton at oven. The output on coke is steadily decreasing, and a large number of ovens are to be blown out in a short time. The output of coke in the upper and lower Connellsville regions for the week ending Feb. 1 was 262,644 tons, a decrease from the previous week of 14,680 tons. We quote standard furnace coke for spot shipment at \$4.25 to \$5 and 72-hour foundry for prompt delivery at \$5 to \$6 per net ton at oven. Sales of standard furnace and foundry coke have been made at lower prices, but they were forced sales of coke that had to be moved, and for which the sellers accepted the best prices they could get. Blast furnaces are now discriminating very sharply in the quality of coke being shipped to them, and are refusing to accept any coke that does not run under 1 per cent sulphur.

Old Material.—Conditions in the local scrap trade show no change for the better, either in demand or prices, and if anything, the market is weaker, with no signs of any buying by consumers. The few sales of scrap made in this market in the past three or four weeks were forced sales of material that was loaded on cars and was sold at the best prices that could be obtained. One large consumer of scrap has stated this week that it does not expect to be in the market as a buyer until late in the year, and another large user expects to make all the scrap it will need in the future. Some Canadian scrap in the form of shell turnings is being offered in this market at about \$15 per gross ton delivered, but this price will not secure any business, being too high. The Pennsylvania Lines West sold its scrap the other day on a basis of close to \$16 for heavy steel scrap, and about \$18 delivered for re-rolling rolls. The B. & O. scrap list came out under date of Feb. 5, bids to be in by noon Feb. 13. The list is heavier than usual, and contains upward of 5000 tons of heavy melting steel. No sales of scrap of any moment were made in this market in the past week, and prices are largely nominal, not enough material being sold to firmly fix prices. We quote as follows, per gross ton delivered, f.o.b. buyer's mill to consuming points in Pittsburgh and other points that take Pittsburgh freight as follows:

| | |
|--|--------------------|
| Heavy steel melting, Steubenville, Follansbee, Brackenridge, Monessen, Midland and Pittsburgh, delivered | \$15.00 to \$16.00 |
| No. 1 cast, for steel plants (nominal) | 19.00 to 20.00 |
| Re-rolling rails, Newark and Cambridge, Ohio; Cumberland, Md.; Franklin, Pa., and Pittsburgh..... | 18.00 to 19.00 |
| Compressed steel | 14.00 to 15.00 |
| Bundled sheet, sides and ends, f.o.b. consumers' mills, Pittsburgh district | 12.50 to 13.00 |
| Bundled sheet stampings..... | 12.50 to 13.00 |
| Railroad grate bars | 13.00 to 14.00 |
| Low phosphorus melting stock..... | 20.00 to 21.00 |
| Low phosphorus bloom and billet ends and heavy plates | 22.00 to 23.00 |
| No. 1 busheling | 15.00 to 16.00 |
| Iron car axles | 37.00 to 38.00 |
| Locomotive axles, steel..... | 36.00 to 37.00 |
| Steel car axles | 38.00 to 39.00 |
| Railroad malleable | 18.00 to 19.00 |
| Machine shop turnings | 9.00 to 10.00 |
| Cast iron wheels | 22.00 to 23.00 |
| Rolled steel wheels | 18.00 to 19.00 |
| Sheet bar crop ends (at origin) | 22.00 to 23.00 |
| Heavy steel axle turnings..... | 12.00 to 12.50 |
| Heavy breakable cast | 20.00 to 21.00 |
| Cast iron borings | 11.00 to 12.00 |
| No. 1 railroad wrought..... | 25.00 to 26.00 |

Chicago

CHICAGO, Feb. 11.

If there is any change in a quiet market in which both producers and consumers are marking time, it is for the better. A little new business is coming to light in all lines of finished steel, although small lots and prompt delivery are the rule. In wire products, for instance, activity is below that usual at this season, but the business coming in is considered fair in view of the price situation, labor troubles and the general uncertainty. Again, there is more buying of cast-iron pipe to be reported. No new structural lettings are reported, and if this condition long prevails, the fabricating shops, which so far have kept busy on orders in hand, will be facing a shut-down. The local leading independent maker of steel has dropped to a 60 per cent basis, but is doing fairly well on current orders with its sheet mills. Small lots of high manganese and high silicon pig iron have been taken by consumers, the former being sold by a steel mill which had a run of iron not suitable for its purposes. Old material shows several declines, but a little business has been done in steel scrap, and a local consumer of cast is reported in the market for several thousand tons. Rerolling rails are coming out quite freely, but none seems to want them.

Ferroalloys.—In no directions is any test of the market reported, and nominal quotations are repeated in the absence of anything better.

We quote 70 per cent ferromanganese nominal at \$200 to \$225 delivered; 50 per cent ferrosilicon at \$125 to \$130, delivered, and 16 to 18 per cent spiegeleisen at \$65 furnace.

Plates.—The mills are receiving new business slowly and in small lots only, but they have enough on their books to keep them operating at a fair rate for a couple of months. Nothing has occurred to change the situation with regard to prospective requirements, except that the lower ocean freights, it is hoped, will stimulate exports.

The mill quotation is 3c., Pittsburgh, the freight to Chicago being 27c. per 100 lb. Jobbers quote 4.27c. for plates out of stock.

Pig Iron.—But little or no change is shown in the situation. Consumers are making very little inquiry, but offers of choice iron have resulted in a few sales, principally of high silicon and high manganese grades, the latter being offered in behalf of a local steel company which appears as a seller after a long absence from the market. Probably 1000 tons of the high manganese iron was sold in small lots. An important Southern furnace which has been contemplating a reduction of \$3 per ton on its contracts probably will come to a decision in a few days. Despite a considerable number of requests for deferred delivery, shipments are going forward fairly well. Meanwhile the readjustment of contracts is proceeding steadily, credit memorandums being sent to the consumers who have taken iron on contract since Jan. 1. The amount of resale iron being offered is much less than might have been expected under the circumstances. Concessions in price are usually acceptable where it is offered, and the broker is allowed a commission as well. With melters over-supplied, considering the lack of business on their books, the outlook for any early resumption of buying is not good.

The following quotations are for iron delivered at consumer's yards, except those for Northern foundry, malleable and steel-making irons, including low phosphorus, which are f.o.b. furnace, and do not include a switching charge averaging 50c. per ton:

| | |
|--|--------------------|
| Lake Superior charcoal, Nos. 2 to 5..... | \$38.70 to \$39.00 |
| Lake Superior charcoal, C to AA..... | 40.70 to 42.50 |
| Lake Superior charcoal, No. 6..... | 41.20 to 41.50 |
| Northern coke foundry, No. 1 silicon, 2.25 to 2.75..... | 32.25 |
| Northern coke foundry, No. 2 silicon, 1.75 to 2.25..... | 31.00 |
| Northern high-phosphorus foundry..... | 31.00 |
| Southern coke, No. 1 foundry and No. 1 soft silicon, 2.75 to 3.25..... | 39.00 |
| Southern coke, No. 2 foundry, silicon, 2.25 to 2.75..... | 37.25 |
| Southern foundry, silicon, 1.75 to 2.25..... | 36.00 |
| Malleable, not over 2.25 silicon..... | 31.50 |
| Standard Bessemer..... | 32.20 |
| Basic..... | 30.00 |
| Low phosphorus (copper free)..... | 52.50 |
| Silvery, 7 per cent..... | 47.00 |

Structural Material.—Of all steel products, shapes are the slowest, but some relief is taking form. The Union Station Co., Chicago, has been authorized to proceed with the issuance of bonds to the amount of \$6,150,000 to finance the new union station on which work was suspended at the outset of the war. The fabricating shops have enough work to keep going for the present, but they face a shut-down unless conditions change within a few weeks.

The mill quotation is 2.80c., Pittsburgh, which takes a freight rate of 27c. per 100 lb. for Chicago delivery. Jobbers quote 4.07c. for material out of warehouse.

Cast Iron Pipe.—Detroit will take bids Feb. 11 on 2000 tons of 48-in. pipe. Toledo, Ohio, placed 1000 tons with the National Supply Co., a local company, and Minneapolis, Minn., has bought 600 tons from the American Cast Iron Pipe Co., its inquiry having been reduced from 1300 tons. Denver will take bids Feb. 14 on 500 tons, Akron, Ohio, on Feb. 21 for 600, and Chicago on Feb. 18 for 225 tons. Stimulation is expected from the prosecution of public improvements.

We quote per net ton, f.o.b. Chicago, ex-war tax, as follows: Water pipe, 4-in., \$64.80; 6-in. and larger, \$61.40; class A and gas pipe, \$1 extra.

Bars.—The steel bar situation resembles that in plates, though there is less back-log against which to work. Bar iron is extremely quiet, with the makers meeting the steel bar price.

Mill prices are: Mild steel bars, 2.70c., Pittsburgh, taking a freight rate of 27c. per 100 lb.; common bar iron, 2.57c., Chicago; refined iron bars, 3.65 to 4.40c.; rail carbon, 2.50c., Pittsburgh.

Sheets.—The makers are fairly comfortable, although their operations are largely dependent on the orders coming in from day to day.

Chicago delivery out of stock regardless of quantity, No. 10 blue annealed, 5.17c.; No. 28 black, 6.22c., and No. 28 galvanized, 7.57c.

Mill quotations are 4.70c. for No. 28 black, 3.95c. for No. 10 blue annealed, and 6.05c. for No. 28 galvanized.

Old Material.—Although but little scrap has been sold, business is appearing in spots, and belief is growing that the market is near the bottom. A large consumer of cast is reported in the market for several thousand tons. A fair tonnage of rerolling rails is being offered by the railroads, but the consumers show no great desire to take them. A fair-sized list has been issued by the Northern Pacific, and others by the Union Pacific, Soo Line and Wabash railroads.

We quote for delivery in buyers' yards, Chicago and vicinity, all freight and transfer charges paid, as follows:

| | |
|--|--------------------|
| Iron rails..... | \$23.00 to \$24.00 |
| Relaying rails..... | 50.00 to 55.00 |
| Car wheels..... | 23.00 to 24.00 |
| Steel rails, rerolling..... | 16.50 to 17.50 |
| Steel rails, less than 3 ft..... | 16.50 to 17.50 |
| Heavy melting steel..... | 15.00 to 16.50 |
| Frogs, switches and guards, cut apart..... | 15.00 to 16.50 |
| Shoveling steel..... | 14.00 to 14.50 |

Per Net Ton

| | |
|----------------------------------|--------------------|
| Iron angles and splice bars..... | \$20.00 to \$21.00 |
| Steel angle bars..... | 13.00 to 14.00 |
| Iron arch bars and transoms..... | 21.50 to 22.50 |
| Iron car axles..... | 29.00 to 30.00 |
| Steel car axles..... | 22.00 to 23.00 |
| No. 1 railroad wrought..... | 15.00 to 15.50 |
| No. 2 railroad wrought..... | 14.00 to 14.50 |
| Cut forge..... | 14.00 to 14.50 |
| Pipes and flues..... | 11.50 to 12.00 |
| No. 1 busheling..... | 13.00 to 13.50 |
| No. 2 busheling..... | 7.50 to 8.00 |
| Steel knuckles and couplers..... | 17.00 to 17.50 |
| Coil springs..... | 18.00 to 18.50 |
| No. 1 cast..... | 19.50 to 20.00 |
| Boiler punchings..... | 19.00 to 20.00 |
| Locomotive tires, smooth..... | 20.00 to 21.00 |
| Machine-shop turnings..... | 5.50 to 6.00 |
| Cast borings..... | 7.50 to 8.00 |
| Stove plate and light cast..... | 15.50 to 16.00 |
| Grate bars..... | 13.50 to 14.00 |
| Brake shoes..... | 13.50 to 14.00 |
| Railroad malleable..... | 14.50 to 15.50 |
| Agricultural malleable..... | 13.50 to 14.00 |
| Country mixed..... | 11.00 to 12.00 |

Wire Products.—Buying is not as active as it should be at this season, but the mills are doing well, considering all. Consumers continue to urge prompt shipments, especially of nails and standard products. A reduction of 25c. a keg has been made on horseshoes, a product of some of the mills. It is felt that if all consumers take the attitude that they are going ahead and do business accordingly that activity will soon

ment. For prices see finished iron and steel f.o.b. Pittsburgh, page 450.

Bolts and Nuts.—The aggregate of business is not great, and there is but little or no contracting, but the makers continue to receive numerous small orders for prompt delivery. Prices are holding firm, except in the case of rivets, which are weak.

Standard rivets, 5.67c.; boiler rivets, 5.77c.; machine bolts, 3/4 x 1 in., 40 per cent off; larger sizes, 25 and 30 per cent off; hexagon nuts, square topped, 78c. off; hexagon topped, 75c. off; coach or lag screws, gimlet points, square heads, 10 per cent off. Quantity extras for nuts are common.

Rails and Track Supplies.—The railroads are purchasing no more than they are compelled to buy, and that is little. The leading interest is running full in all except its electric steel department. In every direction quiet is reported in new business.

Standard railroad spikes, 3.65c., Pittsburgh. Track bolts and square nuts, 4.90c., Pittsburgh. Tie plates, steel, 3c., Pittsburgh and Chicago; tie plates, iron 3.30c., f.o.b. maker's mill. The base for light rails is 3c., f.o.b. maker's mill, with 10 per cent off.

Philadelphia

PHILADELPHIA, Feb. 10.

The opinion is firmly held in the selling departments of some of the steel companies that reductions of from \$5 to \$10 a ton on steel products are imminent. Small producers maintain that further reductions are impossible unless wages paid to labor also come down proportionately. As to this feature of the situation, the steel trade has noted with interest that the copper miners have agreed to lower wages because of reduced selling prices for copper, and it is believed this points the way for wage reductions in the steel industry.

Talk is also heard of \$25 pig iron, and if such a reduction comes soon it is certain that many blast furnaces will blow out rather than pile iron. Such a course is held by pig iron sellers to be desirable, from their point of view, as it would prevent a surplus of iron to depress the market.

Shading of prices on both steel and pig iron is reported. In the case of pig iron, two sales have been made in this market during the past week at concessions. Lower quotations on steel products are reported, but it is difficult to trace actual sales. The view is held by a few sales managers of steel companies that bids on 16,000 tons of plates, shapes and bars, to be opened by the Navy Department on Feb. 18, may bring to light some lower quotations. Pittsburgh mills are reported to be quoting band steel on the steel bar base of 2.70c., instead of on the hoops and bands base of 3.30c.

The American Locomotive Co. has placed orders for 4500 tons of plates for 110 locomotives with Eastern mills. Resale plates are being offered by the Emergency Fleet Corporation at marked reductions from prices quoted by the mills.

Steel companies report a slight increase in tonnages being booked as compared with two or three weeks ago. Operations average from 50 to 60 per cent at some plants, while a few are doing better.

Ore.—There were no arrivals of manganese ore during the week ended Feb. 8. Offerings of resale manganese ore increase, but no sales of importance are reported. Brokers quote the market for resale ore nominally at 60c. per unit.

Ferroalloys.—Though producers still adhere to \$225 as their asking price for 70 per cent ferromanganese, there is none being sold at that figure. Resale lots are offered at \$175 to \$200 per ton. Spiegeleisen, 16 to 18 per cent, is nominally quoted at \$60, furnace.

Pig Iron.—There is almost no business being done, but it is becoming more evident that present quotations would be shaded if consumers showed sufficient buying interest. Two consumers of basic have reported to pig iron sellers that they have received quotations on basic at below \$30, Pittsburgh. On foundry iron sales have been made at concessions. In one case 300 tons of eastern Pennsylvania No. 2X iron was sold by a furnace for export at \$34.75, f.a.s. New York. Deducting

the \$4.30 Pittsburgh freight rate and the \$1.25 differential for 2.25 to 2.75 per cent silicon, makes this sale figure out \$29.20, base, Pittsburgh. A single carload of No. 2 plain iron was sold by an eastern Pennsylvania furnace at \$31, f.o.b. furnace, with a \$2.80 freight rate to Philadelphia. It is predicted in the trade that the Pittsburgh basing will soon disappear. It is objectionable to consumers, who are now insisting on getting the benefit of their location in freight rates. Virginia furnaces are now all quoting \$31, furnace, for No. 2 plain iron, having followed the lead in finally making the \$3 cut of a furnace company which had all along most consistently held out for the \$34 price. One Virginia furnace threatens to cut foundry iron differentials, having in a few instances already quoted \$1 instead of \$1.25 for No. 2X iron over No. 2 plain, and \$2 extra for iron analyzing 2.75 to 3.25 per cent silicon instead of the \$3 which had become recognized during the period of Government price control. Talk is heard of \$25 pig iron, this figure being mentioned as one that might attract buyers. It is regarded as certain that if pig iron prices decline that much within the near future quite a number of Eastern furnaces will go out of blast. This would not be regarded by the trade generally as an unwelcome development, as it would prevent a surplus of iron being accumulated for the time when buying interest revives. At a meeting of the Eastern Pig Iron Association last week Jay C. McLaughlan, former chief of the pig iron section, War Industries Board, declared he thought furnacemen were morally bound to revise prices on all contracts downward \$3 a ton. He based this statement on the fact that pig iron producers had agreed among themselves to this reduction, and that if the War Industries Board had been willing to continue fixed prices this revision would naturally have been made in every instance. Artificial conditions in the pig iron trade, which are relics of Federal control, are gradually being eliminated, and a demand for iron would quickly restore normal competitive conditions. Southern furnaces are not attempting to sell here, and will probably await reduction in their production costs sufficient to enable them to meet Northern competition. There are few inquiries in the market. The Worth Steel Co., Claymont, Del., wants 2000 or 3000 tons of basic. Demand for foundry is limited to an occasional carload. A number of foundries are shutting down because of lack of work. We quote standard grades of iron for delivery in the Philadelphia district, except standard low phosphorus, which is quoted f.o.b. furnace.

| | |
|--|---------|
| Eastern Penna. No. 2 X (2.25 to 2.75 sil.) | \$36.15 |
| Eastern Penna. No. 2 plain (1.75 to 2.25 sil.) | 34.96 |
| Virginia No. 2 X (2.25 to 2.75 sil.) | 36.35 |
| Virginia No. 2 plain (1.75 to 2.25 sil.) | 35.16 |
| Basic | 33.96 |
| Gray forge | 33.96 |
| Standard low phosphorus, f.o.b. furnace | 51.00 |
| Copper-bearing low phosphorus | 48.96 |

Billets.—An export inquiry for several thousand tons of rerolling billets is in the market. A locomotive works has placed an order for 900 tons of specially tested forging billets at \$60, Pittsburgh. We quote open-hearth rerolling billets at \$47.50, Philadelphia.

Plates.—The American Locomotive Co. has distributed among Eastern mills orders for 4500 tons of plates for 110 locomotives. The business was booked at 3c., Pittsburgh. The Navy Department will open bids on Feb. 18 for 16,000 tons of steel, mostly plates and shapes, and there is a belief in some quarters that offers below 3c. may be made. Offers of resale plates are now being made. The Emergency Fleet Corporation is reported to have offered a tonnage of plates at a nearby shipyard at \$25 a ton. A list of about 5000 tons of plates for resale has been sent by one interest to consumers, asking for their bids. Some plate mills report a better inquiry and a slight increase in tonnages booked, as compared with two or three weeks ago, but the demand is limited strictly to current requirements. We quote sheared plates at 3c., Pittsburgh, with a freight rate of 24 1/2c. per 100 lb. to Philadelphia.

Structural Material.—No building projects worthy of note are coming into the market and no marked

change is expected before spring. Mills continue to quote 2.80c., Pittsburgh, with a freight rate of 24½c. per 100 lb. to Philadelphia.

Bars.—Apparently not much bar iron business is being booked at the quotation of 2.90c., Pittsburgh, which certain mills are quoting on Eastern shipments. Eastern bar iron mills adhere firmly to 3.50c., but are not doing any business and some may soon shut down. Owners of these mills may possibly await a showing on the part of labor that it is willing to accept a lower wage. A very fair business in steel bars is being booked by Eastern mills, demand from jobbers being an especial feature. It is reported that a few mills making band steel are now quoting on the steel bar base price of 2.70c., instead of on the 3.30c. hoops and bands price. We quote common merchant bar iron at 3.145c., and soft steel bars at 2.945c., Philadelphia.

Sheets.—There is an improved demand for sheets, particularly for heavy blue annealed sheets. The oil companies are buying quite freely for oil barrels. A local steel company is operating its sheet mills full on two 8-hr. turns a day.

Old Material.—Confusion is being caused, according to scrap dealers, by conflicting reports from Washington as to the quantity of Government scrap that is to be disposed of. The recent claim that the total tonnage is not over 90,000,000 lb. is declared by dealers as absurd. The American Board of Scrap Dealers has positive information of at least 500,000 tons of War Department scrap, and this figure is held to be conservative. At one plant, alone, there is an accumulation of 25,000 tons of shell steel which must be scrapped. Intimations that the Director of Sales of the War Department would try to dispose of a tonnage of military barbed wire as scrap have met with the statement that such material would not be acceptable to any scrap melter, and that therefore it must be dumped into the sea or used as barbed wire. The wire interests are declared to be opposed to its sale as barbed wire. The market continues weak. Dealers quote \$15 to \$17 for No. 1 heavy melting steel, but it is considered doubtful by dealers whether any considerable tonnage could be obtained below \$17. We quote for delivery at consumers' works, eastern Pennsylvania, as follows:

| | |
|---|--------------------|
| No. 1 heavy melting steel..... | \$15.00 to \$17.00 |
| Steel rails, rerolling..... | 17.50 to 18.50 |
| No. 1 low phosphorus, heavy, 0.04 and under | 20.00 to 22.00 |
| Iron rails | 25.00 to 28.00 |
| Carwheels | 23.00 to 25.00 |
| No. 1 railroad wrought..... | 23.00 to 24.00 |
| No. 1 yard wrought..... | 20.00 to 21.00 |
| Country yard wrought..... | 12.00 to 15.00 |
| No. 1 forge fire..... | 15.00 to 16.00 |
| Bundled skeleton | 15.00 to 16.00 |
| No. 1 busheling | 18.00 to 19.00 |
| No. 2 busheling | 14.00 to 15.00 |
| Turnings (for blast furnace use)..... | 10.00 to 12.00 |
| Machine-shop turnings (for rolling mill use) | 10.00 to 11.00 |
| Cast borings (for blast furnace use)..... | 10.00 to 12.00 |
| Cast borings (clean)..... | 13.00 to 15.00 |
| No. 1 cast..... | 23.00 to 24.00 |
| Grate bars | 18.00 to 20.00 |
| Stove plate | 18.00 to 20.00 |
| Railroad malleable | 18.00 to 20.00 |
| Wrought iron and soft steel pipes and tubes (new specifications)..... | 17.00 to 19.00 |
| Ungraded pipe | 14.00 to 16.00 |

Buffalo

BUFFALO, Feb. 11.

Pig Iron.—Inquiry is light, and there is a further diminution in the tonnage of orders for new business placed. In other words, the majority of the inquiries received, which are mostly for small amounts, do not develop into definite orders, which gives the impression that consumers are "lying low" in the matter of buying, and simply feeling out the market. Only immediate, short term needs are being covered. Producers are inclined to believe that buyers are waiting to get their bearings as to the progress of the readjustment process, and that even if some price concessions were made it would not stimulate buying very materially at the present juncture. They are not seeking business very vigorously, knowing that this is a slack time, and most of them have their capacity

pretty well taken up to the end of the first half and almost fully through the first quarter, and none of them appear to be stacking iron. The price schedule is unchanged, as follows f.o.b. furnace, Buffalo:

| | |
|--|---------|
| No. 1 foundry, 2.75 to 3.25 silicon..... | \$24.00 |
| No. 2 X, 2.25 to 2.75 silicon..... | 32.25 |
| No. 3 foundry, 1.75 to 2.25 silicon..... | 31.00 |
| Gray forge | 30.00 |
| Malleable silicon not over 2.25..... | 31.50 |
| Basic, 1 to 1½ per cent mag..... | 30.50 |
| Basic, 1½ to 2½ per cent mag..... | 30.00 |
| Bessemer | 32.25 |
| Lake Superior charcoal, regular grades, f.o.b. Buffalo | 38.50 |

Finished Iron and Steel.—Actual business placed during the week has been small in volume, as has been the case for the past few weeks. As a rule, such orders as have been placed have again gone to the mill in position to make delivery, indicating that only immediate needs are being covered and that future requirements are held back subject to developments of the market. Some of the open hearth plants of the district are being held down to 60 to 65 per cent of capacity, and one such plant is running only 40 to 50 per cent, while a producer of wire products reports no reduction from ordinary. In sheets, the inquiry from automobile industries seems to promise pretty well, and drop forging plants are calling for some tonnages in bar material.

Old Material.—The week has not shown any local demand, consumers evidently not being interested in any line of scrap, but some sales have been made to points outside of the district. Prices are apparently standing with a reasonable degree of stability at the present quoted levels, which are about the same as a week ago; although the limited amount of trading done does not establish more than a nominal price list. We quote as follows, per gross ton, f.o.b. Buffalo:

| | |
|--|--------------------|
| Heavy melting steel, regular grades..... | \$14.00 to \$15.00 |
| Low phosphorus, 0.04 and under..... | 19.00 to 20.00 |
| No. 1 railroad wrought | 18.00 to 19.00 |
| No. 1 machinery cast | 21.00 to 22.00 |
| Iron axles | 23.00 to 24.00 |
| Steel axles | 23.00 to 24.00 |
| Carwheels | 21.00 to 22.00 |
| Railroad malleable | 19.00 to 20.00 |
| Machine shop turnings | 7.50 to 8.00 |
| Heavy axle turnings..... | 13.00 to 14.00 |
| Clean cast borings..... | 11.00 to 12.00 |
| Iron rails | 21.00 to 22.00 |
| Locomotive grate bars | 16.00 to 17.00 |
| Stove plate | 16.00 to 17.00 |
| Wrought pipe | 13.00 to 14.00 |
| No. 1 busheling | 13.00 to 14.00 |
| Bundled sheet stamping..... | 11.00 to 12.00 |

Birmingham

BIRMINGHAM, ALA., Feb. 10.

Pig Iron.—The Birmingham pig iron market reached the depth of stagnation during the past week, there being little inquiry and only a few sales of small lots. The largest transaction was 500 tons, which brought \$31. There has been some export inquiry, but no orders were booked. A steel manufacturer who once did a large foreign business, reports for the first time since the war, a prospect of exports incident to lower ocean rates. Negotiations are now under way. The January Alabama output of pig iron was the lowest since August of 1915 and the comparatively inferior physical operation of furnaces is evidenced by the fact that 20 stacks in August, 1915, produced as much iron as 27 to 28 in January, 1919. Labor continues to fail to respond to high wages by capable performance with resultant poor raw material. This condition will probably improve with the going out of probably two fair weather furnaces and the elimination of the scramble for men and materials. The Talladega stack, which fell in, has resumed and will work up the raw material on hand, after which it is expected to blow out on account of the high price of operation. The Woodstock furnace at Anniston has also blown in. The Tennessee company had an accident at one of its Ensley stacks during the week that will put it out of commission for 10 days. Steel mill operations are about the same as the past two weeks, the Fairfield and Ensley works running at full normal and the Gulf States Steel

Co. at 50 to 60 per cent. Forty Birmingham iron and steel manufacturers have asked for withdrawal of the United States Employment Agency at Birmingham on the ground that it displays too much union obsession in its personnel. The coal output continues to lag. We quote per gross ton f.o.b. Birmingham district furnaces as follows:

| | |
|-------------------------------------|---------|
| Foundry, 1.75 to 2.25 silicon | \$31.00 |
| Basic | 30.00 |

Cast-Iron Pipe.—Water pipe concerns report greater interest than in many months on the part of municipalities with indications that many will place substantial orders within a short period. Such cities as Detroit, Minneapolis, St. Paul, Toledo and Akron, Ohio, are mentioned among those sounding the market for large tonnages. Birmingham Water Works has bought five miles of 10 to 16-in. main and there is a substantial inquiry from the southwestern oil and gas interests. The sanitary pipe trade is also more buoyant and confidently expects considerable activity by early spring.

Old Material.—The scrap market is in a stagnant condition with lower prices on a number of items. Heavy melting steel declined another dollar per ton. Consumers seem still to have the market in hand with stocks that enable them to keep hammering the market. We quote per gross ton f.o.b. Birmingham district yards, prices to consumers, as follows:

| | |
|------------------------------|--------------------|
| Old steel axles | \$28.00 to \$30.00 |
| Old steel rails | 14.00 to 14.50 |
| Heavy melting steel | 12.00 to 13.00 |
| No. 1 railroad wrought | 20.00 to 21.00 |
| No. 1 cast | 20.00 to 20.50 |
| Carwheels | 20.00 to 20.50 |
| Tramcar wheels | 19.50 to 20.00 |
| Machine shop turnings | 7.50 to 8.00 |
| Cast iron borings | 7.50 to 8.00 |
| Stove plate | 13.00 to 13.50 |

British Iron and Steel Market

Large Demand for Rails—Eight-Hour Day in Steel Industry—Pig Iron Active (By Mail)

LONDON, ENGLAND, Jan. 21.—Resumption of work has been good in the iron and steel industries throughout the country. Steel works generally are exceedingly active, shipbuilding and structural material being a very important item, while the demand for steel rails is a factor which will engage considerable attention for some time. During the war period the railroads have had very little done for them beyond the most absolutely necessary work in connection with their upkeep, and it is stated that nearly all the lines in the kingdom are now requiring attention if not relaying. Some exceedingly big orders have already been placed for rails and there are signs of this continuing. In addition it is reported that the Egyptian State Railways are inquiring from British firms for prices and delivery on 500,000 (about 30,000 tons) pressed steel sleepers and fastenings 4 ft. 8½ in. gage track.

Speaking generally the steel trade is not in a satisfactory condition, the position at present being confused owing to the involved question regarding subsidies and the status of export orders which were placed here prior to the subsidy arrangements. Another obscuring factor is the unrest in the labor world, workmen in nearly every industry calling for shorter hours and in most cases increased pay. It has already been decided by a joint conference of the Midland wages board and representatives of operatives that an 8-hr. day is to be put into force in the iron and steel industries. This decision affects many thousands of workers, there being over 80 large firms affiliated with the board in Staffordshire, South Yorkshire, Derbyshire, Lancashire, Wales and Cheshire. The argument used by the workers on whose behalf the application was made was that by reducing the hours more men would necessarily be employed, and that this would greatly assist in demobilization.

A number of leading British manufacturers recently

waited upon the president of the Board of Trade with regard to the question of restrictions on importations of goods of foreign origin, and an influential committee, it is understood, is about to be formed to advise the department on the subject. It is reported that there is a possibility that restrictions which had been lifted until March would again be imposed at the end of that period, and that no further restrictions would be removed without manufacturers being consulted. It is hinted that further restrictions may be necessary, as it is realized that everything must be done to keep all factories fully employed, so that as many demobilized men as possible may be occupied. At a meeting to be held this week of the London Chamber of Commerce one or two interesting items are down for discussion, including the question of iron and steel trade notices intimating that past and future prices given by them are not binding, and a resolution is to be put to the chamber that they send a deputation to the Prime Minister to protest against the duty placed on exports of iron and steel.

It is understood that an agreement has been reached by which Messrs. Baldwins will acquire the undertaking of the British Steel Corporation. This company acquired the Briton Ferry Works and a site of 350 acres on which blast furnaces and coke ovens are to be erected with a capacity of 20,000 tons of pig iron a week. When the intended program is carried through Messrs. Baldwins will, it is stated, have a larger productive capacity than any other company in the country, and indeed one of the largest in Europe. Other plans are also in progress for the extension of their manufacturing iron and steel business.

The pig iron market here has not properly settled down. Producers' works are very active, the demand in most instances exceeding the supply. The inquiry for foundry iron cannot be adequately satisfied, and the available supply has to be distributed as equitably as possible to meet urgent requirements, forge quality being mixed wherever practicable to eke out the supply of foundry iron. Pressing demands for export delivery are generally impossible to meet, although the facilities are perhaps better than they were. Very little iron can be spared for shipment although limited quantities continue to go to France. Control certificates are not now required for sales of pig iron and merchants welcome this release from the disclosure to makers of their private business which was formerly necessary.

Some minor revisions have been made in prices of manufactured iron, etc., the following being the prices now in force:

Pig Iron

| | Maximum home prices net, f.o.t. | Export prices net, f.o.b. cash against documents |
|--------------------------------------|---------------------------------|--|
| | £ s. d. | £ s. d. |
| Hematite: | | |
| West coast | 6. 7. 6 | 8. 17. 6 |
| East coast | 6. 2. 6 | 8. 12. 6 |
| Scotch | 6. 2. 6 | 8. 12. 6 |
| Welsh | 6. 2. 6 | 8. 12. 6 |
| Foundry and forge: | | |
| Cleveland No. 3 foundry | 4. 15. 0 | 7. 5. 0 |
| Cleveland forge | 4. 15. 0 | 7. 5. 0 |
| Scottish No. 3 foundry | 5. 14. 0 | 8. 4. 0 |
| Lincolnshire foundry and forge | 4. 17. 6 | 7. 7. 6 |
| Northants No. 3 foundry | 4. 10. 0 | 7. 0. 0 |
| Northants No. 4 forge | 4. 7. 6 | 6. 17. 6 |
| Basic: | | |
| Cleveland | 5. 0. 0 | 7. 10. 0 |
| All others | 4. 17. 6 | 7. 7. 6 |

Finished Iron and Steel

| | Maximum home trade net, f.o.t. | Export net, f.o.b. cash against documents |
|---|--------------------------------|---|
| | £ s. d. | £ s. d. |
| Ship, bridge and tank plates | 14. 0. 0 | 16. 10. 0 |
| Ship, bridge and tank plates, thin | 16. 0. 0 | 19. 10. 0 |
| Boiler plates | 15. 0. 0 | 17. 10. 0 |
| Chequer plates | 15. 10. 0 | 18. 0. 0 |
| Angles and sections | 13. 12. 6 | 16. 2. 6 |
| Small angles, tees and flats | 16. 10. 0 | 18. 10. 0 |
| Joists | 13. 12. 6 | 16. 2. 6 |
| Rounds, squares and hexagons | 14. 5. 0 | 17. 10. 0 |
| Small squares | 16. 10. 0 | 18. 10. 0 |
| Rails, 60 lb. and over | 13. 7. 6 | 15. 10. 0 |
| Billets, ordinary rolling quality | 11. 12. 6 | 13. 10. 0 |
| Billets, forging and hard | 12. 15. 0 | 15. 0. 0 |
| Sheet bars and tin plate bars | 10. 15. 0 | 12. 17. 6 |
| Bar iron | 16. 5. 0 | 20. 0. 0 |
| Marked bars | 18. 10. 0 | ..... |
| Iron plates and sheet, ¼ in. up | 19. 0. 0 | ..... |
| Iron plates and sheet under ¼ in. to 3/16 in. | 19. 10. 0 | ..... |

Cleveland

CLEVELAND, Feb. 11.

Iron Ore.—Ore shipments from Lake Erie docks during January were 735,094 gross tons as compared with 199,091 tons in January a year ago. The weather was favorable for handling ore during the entire month and the car supply was good as compared with bad weather conditions and shortage of cars a year ago. There will probably be considerably less ore on the docks at the opening of the season of navigation than there was on the same date last year. Dock stocks Feb. 1 amounted to 8,633,956 tons, as compared with 10,069,592 tons on Feb. 1 a year ago. On May 1 last there was 5,624,587 tons on Lake Erie docks. Ore shippers expect a late opening of the season of navigation, as there will probably be very little demand for early cargoes. There are no indications of an early buying movement. We quote f.o.b., lower Lake docks as follows:

Old range Bessemer, \$6.65; old range non-Bessemer, \$5.90; Mesaba Bessemer, \$6.40; Mesaba non-Bessemer, \$5.75.

Pig Iron.—Export inquiries came out during the week for 3000 tons of basic, 3000 tons of foundry and 2000 tons of low phosphorus iron, the latter two being for China. There is almost a total absence of domestic inquiry and producers are not attempting to make sales. One leading interest sold only 500 tons in three lots of foundry iron during the week, which indicates the dullness of the market. Few orders are far more than car lots. While stock piles are growing, furnaces report that consumers are taking iron fairly well on contracts. As the foundry melt is light, a large share of consumers are receiving shipments in excess of their requirements. Not a great deal of resale iron is being offered. With practically no demand, producers are not offering iron below regular prices. So far, the differentials that have been prevailing are maintained and some producers do not look for a change in these until their coke costs are lowered. Ohio silvery producers are adhering to the old Government prices at which sales of two-car lots are reported, but resale silvery is being sold at a \$3 per ton reduction. We quote delivered Cleveland as follows:

| | |
|---|---------|
| Bessemer | \$33.60 |
| Basic | 30.40 |
| Northern No. 2 foundry | 31.40 |
| Southern No. 2 foundry, silicon, 2.25 to 2.75 | 37.25 |
| Gray forge | 30.40 |
| Ohio silvery, 8 per cent silicon | 46.90 |
| Standard low phosphorus, Valley furnace | 51.00 |

Coke.—Producers are canvassing the trade offering a large amount of both furnace and foundry coke, but instead of naming prices are asking that offers be submitted. For Connellsville foundry coke \$6 per net ton seems to be the only open quotation. Local by-product coke is quoted at around \$7 Connellsville.

Finished Iron and Steel.—The demand for finished lines seems to improve slightly from week to week. There is a fair volume of inquiry, but the most of this, when any tonnage is involved, is for estimating purposes. Mills are taking good sized tonnages on specifications, to replace old orders that were held up during the war. About 50 per cent of the steel is going directly or indirectly to the automobile and motor truck industries. One large producer of alloy steel has orders taking 100 per cent of its capacity for six weeks, as compared with 25 per cent early in January. Two other Ohio mills are well filled up with alloy steel orders. The demand for spring steel is still heavy. The automobile manufacturers continue to place orders for material for early requirements and implement manufacturers are pressing the mills for deliveries. There is a marked improvement in mill orders from jobbers, but jobbers are ordering very little for stock. New inquiries include 1400 tons of light rails and 600 tons of plates, the latter for railroad repair work. The demand for plates continues light. In structural lines, several thousand tons of steel will be required for a large new office building to be built in Cleveland by Dan R. Hanna. The demand for hard steel bars for reinforcing purposes is light, and mills are eager for orders. Some resale hard steel bars are being offered at around 2c. There is a heavy tonnage of shell steel

awaiting disposition and some plans are under way for converting this into hard steel bars. It is expected that this can be placed on the market at around 25c. Some manufacturers have large stocks of tin plate which they are anxious to dispose of and some of this is being offered at price concessions. Warehouse prices are as follows:

Steel bars, 3.87c.; plates, 4.17c.; structural material, 3.97c.; No. 10 blue annealed sheets, 5.07c.; No. 28 black sheets, 6.12c.; No. 28 galvanized sheets, 7.47c.

Tool Steel.—The high speed tool steel market is disturbed by offerings of resale high speed steel at \$1.40 and probably lower. Mills quote high speed tool steel at from \$1.50 to \$1.90.

Bolts, Nuts and Rivets.—The demand for bolts and nuts is light, being limited to small orders. There is no demand from jobbers, and consumers are buying only for early requirements. Regular prices are maintained. Rivet consumers are looking for lower prices, but manufacturers so far are adhering to regular prices on large rivets. Specifications are coming out in fair volume, but new orders are light. Prices on small rivets are now well established at a price reduction of from 5 to 10 per cent below recent prices. We quote small rivets at 50 and 10, and 10 off list.

Old Material.—The tendency of scrap prices is still downward. Producers generally are selling material for what they can get and in some cases dealers have been surprised that their low offers were accepted. A large share of the material is going in dealers' yards, although some is being shipped to mills that have been buying small lots recently on a declining market. There is practically no new inquiry from consumers. A northern Ohio mill purchased a fair tonnage of heavy steel a few days ago at \$16, but this material to-day has settled down to \$14 to \$15. Turnings are particularly weak and round lots have sold around \$7.50 at shipping point. Wrought and malleable scrap are lower. The New York Central Railroad received bids Friday for considerable tonnage. We quote delivered at consumers' yards in Cleveland and vicinity as follows:

| | |
|--|--------------------|
| Heavy melting steel | \$14.00 to \$15.00 |
| Steel rails, under 3 ft. | 21.00 to 22.00 |
| Steel rails, rerolling | 22.00 to 23.00 |
| Iron rails | 26.00 to 27.00 |
| Iron car axles, nominal | 37.00 to 38.00 |
| Steel car axles | 37.00 to 38.00 |
| Low phosphorus melting scrap | 17.00 to 18.00 |
| Cast borings | 9.00 to 10.00 |
| Iron and steel turnings and drillings .. | 7.50 to 8.00 |
| Compressed steel | 14.00 to 15.00 |
| No. 1 railroad wrought | 20.00 to 21.00 |
| Cast iron carwheels | 22.00 to 23.00 |
| No. 1 railroad wrought | 19.00 to 20.00 |
| Agricultural malleable | 15.00 to 16.00 |
| Railroad malleable | 15.00 to 16.00 |
| Steel axle turnings | 12.00 to 13.00 |
| Light bundled sheet scrap | 8.00 to 9.00 |
| No. 1 cast | 21.00 to 22.00 |
| No. 1 busheling | 15.00 to 15.50 |
| Railroad grate bars | 14.50 to 15.50 |
| Stove plate | 15.00 to 16.00 |

New York

NEW YORK, Feb. 11.

Pig Iron.—A sale of 4000 tons has been made for export at an early date. No details as to the transaction are announced, but it is known that other orders amounting to 400 tons have been taken, and that some export tonnage is still pending, while on the other hand an inquiry for 3000 tons for Italy was not placed in this country because prices were too high. It is understood that on the 4000 tons placed, prices prevailing in this country were named. In the domestic market there is a slight increase in small orders, and although developments are not very significant, the outlook is somewhat more encouraging than it has been for a number of weeks. We quote prices as follows for tidewater delivery for Northern and Southern grades:

| | |
|---|---------|
| No. 1 foundry, silicon, 2.75 to 3.25 | \$37.90 |
| No. 2 X, silicon, 2.25 to 2.75 | 36.15 |
| No. 2 plain, silicon, 1.75 to 2.25 | 34.90 |
| No. 2 X, Virginia, silicon, 2.25 to 2.75 | 36.65 |
| No. 1 Southern, silicon, 2.75 to 3.25 | 41.70 |
| No. 2 Southern (all rail), silicon, 2.25 to 2.75 .. | 39.95 |
| No. 2 Southern (all rail), silicon, 1.75 to 2.25 .. | 38.70 |

Ferromanganese.—The situation is practically unchanged from that reported last week. Demand for either ferromanganese or spiegeleisen is extremely light. A few sales of carload lots of resale ferromanganese have been made at \$175 to \$200. This represents the extent of the demand. Most producers are asking \$225, delivered. One consumer said he would be interested at \$140. For the first time in some weeks there have been sales of a few carload lots of spiegeleisen for early delivery, and these have gone at about \$60, delivered. The production of both ferromanganese and spiegeleisen in January according to the blast furnace report of THE IRON AGE was considerably larger than anticipated by the trade in general. There has been no change in the market for 50 per cent ferrosilicon, which continues inactive, with resale metal obtainable at least as low as \$110 per ton.

Cast-Iron Pipe.—Bayonne, N. J., is in the market for 1500 tons of pipe, mostly 36-in., and bids will be received by contractors Feb. 21. This is the largest tonnage that has appeared in the Eastern market for many weeks. Prices for 6-in. and heavier are \$62.70, New York; for 4-in., \$65.70; for 3-in., \$72.70, and \$1 additional for class A and gas pipe.

Old Material.—Dealers unanimously agree that prices have fallen during the past week, though they admit that it is difficult to pin the market down to any definite figures because of the absence of transactions. There still seems to be practically no demand by foundries or mills. Although the strikes of the molders and coremakers in the foundries are over, laborers are still out. Foundries are in operation, but this condition does not seem to add to the activity of scrap transactions. Prices brokers are quoting per gross ton, New York, follow:

| | |
|--|--------------------|
| Heavy melting steel..... | \$10.00 to \$11.00 |
| Revolving rails..... | 13.50 to 14.00 |
| Relaying rails, nominal..... | 50.00 to 55.00 |
| Iron and steel car axles..... | 20.00 to 22.00 |
| No. 1 railroad wrought..... | 18.00 to 19.00 |
| Wrought-iron track..... | 13.00 to 14.00 |
| Forge tire..... | 10.00 to 11.00 |
| No. 1 yard wrought, long..... | 15.50 to 16.50 |
| Light iron..... | 5.00 to 6.00 |
| Cast borings (clean)..... | 9.00 to 10.00 |
| Machine shop turnings..... | 6.00 to 7.00 |
| Mixed borings and turnings..... | 5.00 to 6.00 |
| Iron and steel pipe (1 in. minimum diameter), not under 2 ft. long.... | 12.00 to 13.00 |
| Stove plate..... | 14.50 to 15.50 |
| Locomotive grate bars..... | 14.00 to 15.00 |
| Malleable cast (railroad)..... | 14.00 to 15.00 |
| Old carwheels..... | 22.00 to 23.00 |

Prices which brokers are quoting to dealers in New York and Brooklyn, per gross ton, are:

| | |
|--|--------------------|
| No. 1 machinery cast..... | \$20.50 to \$21.50 |
| No. 1 heavy cast (columns, building materials, etc.), cupola size..... | 16.50 to 17.50 |
| No. 1 heavy cast, not cupola size.... | 14.50 to 15.50 |
| No. 2 cast (radiators, cast boilers, etc.)..... | 15.50 to 16.50 |

Finished Iron and Steel.—Purchases for immediate needs are all that mark the general situation. An outstanding fact is the freer admissions among producers that prices must go lower before any real buying may result. This is taken to indicate that the labor item cost must soon be shaved, as well as others. The great differences in manufacturing costs among the different steel plants, as developed in the period of Government control, gives color to the claims of some producers that however high present prices seem by comparison to those before the war, reductions from the present levels would mean manufacture at a loss. The selling trade has not as yet given any special consideration to the proposal of the Secretary of Commerce that conferences be held to ascertain the prices which each industry believes would start buying. It is presumed that with the plan to have labor represented in the conferences, some degree of labor readjustment might be obtained in this way. Inquiry for export is perhaps a little better than a week ago, and small lots, as of bolts, nuts and related products, have been sold for South America. An inquiry for 10,000 tons of 75-lb. rails for Japan is not yet regarded as business for early closing. By Thursday it is expected there will be a settlement on the manufacture in this country of railroad cars for France, 5000 perhaps being already ar-

ranged at this writing. A lot of universal plates, exceeding 1000 tons, for car construction, has been put on the schedule of an Eastern mill at the war contract price of 3.25c. Fabricators have been figuring actively, but contracts are not voluminous. We quote mill shipments as follows: Steel bars, 2.97c.; shapes, 3.07c.; plates, 3.27c.; common bar iron, 3.17c.; all New York. Out-of-store prices are as follows: Steel bars, 3.97c.; structural shapes, 4.07c.; plates, 4.27c.; No. 10 blue annealed sheets, 5.17c.; one-pass cold-rolled black sheets, No. 28 gage, 6.22c.; No. 28 galvanized sheets, 7.57c.; hoops, 4.57c.; bands, 3 16 in., Nos. 10 and 12, 4.57c.; shafting, plus 9 per cent off list.

Cincinnati

CINCINNATI, Feb. 11—(By wire).

Pig Iron.—Practically all Southern furnaces are now willing to sell iron for future shipment at the \$31 Birmingham basis for first and second quarters. Not all of them have yet openly named this figure, but it is generally understood that they would not hesitate to accept any business offered. Apparently there is no foundation for any outside rumors circulated that the price named would be shaded. Furnace melters in all districts realize fully that a cut in quotations would not bring out any business and they are simply playing a waiting game. It is reported that some melters who have undelivered iron on contracts made at the last Government price of \$34 a ton would be allowed on future shipments. This action has not been taken by all producers in either the Ironton or Birmingham district, but as the trail has been blazed by several companies, others are expected to follow at an early date. The melt of foundry iron is still falling off, but not as rapidly as was the reduction noted early last month. The same condition exists as far as basic and malleable are concerned. A further closing down of some furnaces is reported to be imminent.

Based on freight rates of \$3.50 from Birmingham and \$1.80 from Ironton, we quote f.o.b. Cincinnati:

| | |
|--|---------|
| Southern coke, No. 1 foundry and 1 soft..... | \$35.85 |
| Southern coke, No. 2 foundry and 2 soft..... | 34.60 |
| Southern coke, No. 3 foundry..... | 34.10 |
| Southern No. 4 foundry..... | 33.85 |
| Southern gray forge..... | 33.60 |
| Ohio silvery, 8 per cent silicon..... | 49.30 |
| Southern Ohio coke, No. 1..... | 34.05 |
| Southern Ohio coke, No. 2..... | 32.80 |
| Southern Ohio coke, No. 3..... | 32.30 |
| Southern Ohio malleable Bessemer..... | 33.30 |
| Basic, Northern..... | 31.80 |
| Standard Southern carwheel..... | 51.60 |

Old Material.—The recent radical reductions made on all kinds of scrap have not brought out any business. Foundry melters have more old material on hand and contracted for than they can well take care of, as the melt of foundry scrap is probably down to about 35 or 40 per cent as compared with last year at this time. As very severe weather conditions prevailed last year in February, this statement does not seem to be very encouraging. The call for steel scrap from Pittsburgh and Cleveland territory is very slow, and offers made on such small quantities as are quoted are very low in all cases. The following are buying prices f.o.b. cars Cincinnati and southern Ohio in carload lots:

| Per Gross Ton | |
|------------------------------------|--------------------|
| Bundled sheet..... | \$10.50 to \$11.50 |
| Old iron rails..... | 24.50 to 25.00 |
| Relaying rails, 50 lb. and up..... | 40.00 to 41.00 |
| Revolving steel rails..... | 19.00 to 20.00 |
| Heavy melting steel..... | 14.50 to 15.00 |
| Steel rails for melting..... | 15.00 to 16.00 |
| Old carwheels..... | 18.00 to 19.00 |

| Per Net Ton | |
|--------------------------------------|--------------------|
| No. 1 railroad wrought..... | \$15.00 to \$16.00 |
| Cast borings..... | 5.00 to 5.50 |
| Steel turnings..... | 5.00 to 5.50 |
| Railroad cast..... | 15.50 to 16.00 |
| No. 1 machinery..... | 17.50 to 18.00 |
| Burnt scrap..... | 12.00 to 13.00 |
| Iron axles..... | 28.00 to 29.00 |
| Locomotive tires (smooth inside).... | 17.50 to 18.00 |
| Pipes and flues..... | 11.00 to 11.50 |
| Malleable cast..... | 13.50 to 14.00 |
| Railroad tank and sheet..... | 10.00 to 10.50 |

Coke.—The ovens are making strenuous efforts to get shipping instructions on contracts, but they have not been very successful. The consumption of both furnace and foundry coke is much reduced, while the output in all different fields is on the increase. Connells-ville furnace coke has settled down to \$5.50 to \$6 per net ton at oven and foundry grades are from \$6.50 to \$7. No change has been made in the Wise County and New River prices, although the quotation of \$7.25 on Wise County furnace coke and \$8.25 on foundry are not very firm. The general price of \$8 on both furnace and foundry grades in the New River field is considered merely a nominal one, as there is no new business to test out the market.

Finished Material.—Shipments from the mills are moving forward promptly, and in some cases jobbers are having difficulty in unloading orders as fast as received. For this reason there have been numerous requests sent in to slow down forwarding material. There is a good demand for steel pipe, and this is one item that the mills are not able to ship as promptly as is desired. Some small orders for small structural shapes and steel bars are picked up each day, but the total tonnage is not sufficiently large to demand more than passing notice. Hardware dealers are buying wire nails freely, but in very small quantities.

The following are local jobbers' prices: Steel bars and small structural shapes, 4.13c. base; large rounds and squares 2 in. and over, 4.23c. base; plates, 4.48c. base; No. 10 blue annealed sheets, 5.48c.; steel bands, 3/16 in. and lighter, 4.98c. base (using the new band list). Reinforcing concrete bars, 4.25 1/2c., and wire nails, \$4.15 per keg base.

St. Louis

ST. LOUIS, Feb. 10.

Pig Iron.—No new tendencies toward the purchase of pig iron have developed during the past week and the market is still playing a waiting game, the consumers seemingly being determined to make their stocks on hand or under irrevocable contract go as far as possible and to avoid commitments until such time as they are convinced that prices are stable. It seems, now, to be the opinion that 30 to 60 days more will elapse before any real buying movement can be expected, though there is hope that the period will not be so long. Some small purchases are reported from day to day for special needs or of special or off-analysis, but there is nothing being done on which a market could be based. Practically all furnaces represented in this market are ready to take business and some are offering it at the \$3 reduction, but there is no business to be had at present.

Coke.—The coke market presents no new features, as no new business has been transacted either immediate or future on which to base market conclusions. Some domestic coke is selling, but metallurgical coke is absolutely without feature.

Finished Iron and Steel.—While some interest continues to be evinced by contractors and other consumers in the finished product market, there is still very little activity in the way of actual business. Mill representatives are disinclined to make transactions on a basis of deliveries earlier than the third quarter, at least according to their professions, but they are not being pressed with new business for any delivery at present. Movement out of warehouse is rather light just now. Mill prices remain as last quoted, while for stock out of warehouse we quote as follows: Soft steel bars, 4.04c.; iron bars, 4.04c.; structural material, 4.14c.; tank plates, 4.34c.; No. 8 sheets, 5.19c.; No. 10 blue annealed sheets, 5.24c.; No. 28 black sheets, cold rolled, one pass, 6.29c.; No. 28 galvanized sheets, black sheet gauge, 7.64c.

Old Material.—The scrap market is still in a most unsettled state with not enough business passing to make a real market, with the consequence that any figures which may be given are estimates of value and not quotations bearing upon actual sales. As a result, the prices show inequalities to a considerable degree. The tone shows a constantly softening tendency and the absence of demand is continuing. Consumers are taking only what they have already bought and de-

cline for the most part to consider any new transactions. Dealers are not trading among themselves save in the matter of small buying to fill needs on contracts. Inspection is very severe and some embargoes are still on. Lists out include 1000 tons from the Union Pacific, 1000 tons from the Wabash, 1100 tons from the Mobile and Ohio, 750 tons from the Frisco and Katy roads combined and 500 tons from the Texas Pacific. The statements that the Government holdings are only about 50,000 tons instead of the large quantities expected have not affected the market materially, though when analyzed they may strengthen conditions, particularly if any consumer demands comes in to aid the situation. We quote dealers' prices, f.o.b. customers' works, St. Louis industrial district, as follows:

Per Gross Ton

| | | |
|--|-------|--------------------|
| Old iron rails | ..... | \$22.00 to \$23.00 |
| Old steel rails, rerolling | ..... | 16.00 to 17.00 |
| Old steel rails, less than 3 ft. | ..... | 16.50 to 17.00 |
| Relaying rails, standard sections, subject to inspection | ..... | 40.00 to 45.00 |
| Old carwheels | ..... | 22.00 to 22.50 |
| No. 1 railroad heavy melting steel | ..... | 14.50 to 15.00 |
| Heavy shoveling steel | ..... | 14.00 to 14.50 |
| Ordinary shoveling steel | ..... | 13.00 to 13.50 |
| Frogs, switches and guards, cut apart | ..... | 14.50 to 15.00 |
| Ordinary bundled sheet scrap | ..... | 9.00 to 9.50 |
| Heavy axle and tire turnings | ..... | 8.00 to 8.50 |

Per Net Ton

| | | |
|---|-------|------------------|
| Iron angle bars | ..... | \$17.00 to 17.50 |
| Steel angle bars | ..... | 15.00 to 15.50 |
| Iron car axles | ..... | 24.00 to 24.50 |
| Steel car axles | ..... | 23.00 to 23.50 |
| Wrought arch bars and transoms | ..... | 19.00 to 19.50 |
| No. 1 railroad wrought | ..... | 15.00 to 15.50 |
| No. 2 railroad wrought | ..... | 14.00 to 14.50 |
| Railroad springs | ..... | 15.50 to 16.00 |
| Steel couplers and knuckles | ..... | 15.50 to 16.00 |
| Locomotive ties, 42 in. and over, smooth inside | ..... | 13.00 to 13.50 |
| No. 1 dealers' forge | ..... | 11.50 to 12.00 |
| Cast iron borings | ..... | 8.00 to 8.50 |
| No. 1 busheling | ..... | 12.50 to 13.00 |
| No. 1 boilers cut to sheets and rings | ..... | 8.00 to 8.50 |
| No. 1 railroad cast | ..... | 16.50 to 17.00 |
| Stove plate and light cast | ..... | 12.00 to 12.50 |
| Railroad malleable | ..... | 12.00 to 12.50 |
| Agricultural malleable | ..... | 11.00 to 11.50 |
| Pipes and flues | ..... | 11.00 to 11.50 |
| Heavy railroad sheet and tank | ..... | 10.00 to 10.50 |
| Railroad grate bars | ..... | 12.00 to 12.50 |
| Machine shop turnings | ..... | 7.00 to 7.50 |
| Country mixed | ..... | 11.00 to 11.50 |
| Uncut railroad mixed | ..... | 12.00 to 12.50 |
| Horseshoes | ..... | 13.50 to 14.00 |

The Lynchburg Foundry Co., Lynchburg, Va., manufacturer of cast iron pipe and fittings, has issued a pamphlet, written by the president, L. H. McWane, entitled, "Our Part in the War." It states that the total volume of work furnished by it exclusively for war purposes since 1915 aggregates \$2,727,436.84, constituting a tonnage of 46,000, or about 3000 minimum carloads. Most of its product was delivered to the DuPont powder plant at Hopewell, Va., and the Government plant at Nashville, Tenn., the men working nights and Sundays, and shipping the castings by express while they were still hot.

The Torbensen Axle Co., Cleveland, has placed a contract for the erection of a two-story factory addition 140 x 110 ft. The building will be of brick and steel construction with a saw tooth roof over the center bay. It will be used in the manufacture of heavy axles for motor trucks. New machinery to the amount of about \$30,000 will be required to equip this plant. The company expects to purchase this shortly.

The Quigley Furnace Specialties Co., 26 Cortlandt Street, New York, has opened a branch office in Providence, R. I., at 302 Turks Head Building, in charge of F. W. Reisman, who has been eastern New England representative for its fire brick cement, insulating brick and air transport system for burning powdered coal and other fuels.

The Advance Foundry Co., of Dayton, Ohio, has moved its office and plants from Crane and Harshman and 1803 East First streets to its new plant at Parnell and Florence avenues, same city.

IRON AND INDUSTRIAL STOCKS

Industrial Shares Reach New Low Average Under Adverse Market Influences

NEW YORK, Feb. 10.

Industrial stocks continue to recede under various softening influences, steel and metal-working shares reflecting the proof presented in annual statements that earnings declined sharply in the last quarter of 1918. United States Steel common closed last week at 88½, its lowest point in 10 months. On Thursday the average figure for 20 important industrial issues was 79 as compared with 89 on Oct. 18 last when the recession set in.

The range of prices in active iron and industrial stocks from Tuesday of last week to Tuesday of this week was as follows:

| | |
|---------------------------|---------------------------|
| Allegheny com. 30½-32 | Lake Supr. Corp. 19½-20 |
| Allegheny pf. 84-84½ | Midvale Steel 40½-41½ |
| Am. Can. com. 45½-47½ | Nat.-Acme 31 |
| Am. Can. pf. 100-102 | Nat. En. & St. c. 45½-48½ |
| Am. Car & F. c. 84½-89 | Nat. En. & St. pf. 96½-98 |
| Am. Car & F. pf. 115½ | N. Y. Air Brake 93½-96 |
| Am. Loco. com. 58½-59½ | Nova Scotia Steel 47½-48 |
| Am. Loco. pf. 102½ | Pressed Steel c. 59½-62½ |
| Am. Ship com. 101½ | Ry. Steel Spg. c. 68½-73½ |
| Am. Steel Fdries. 68-79 | Republic com. 71½-73½ |
| Baldwin Loco. c. 66-68½ | Republic pf. 101½-101½ |
| Beth. Steel com. 58½-59½ | Sloss com. 46½-49½ |
| Beth. Steel cl. R. 58½-60 | Sloss pf. 88 |
| Chas. Iron Tool. 62-63 | Superior Steel 34½-35½ |
| Coca. Fuel 34½-35½ | Transue-Williams 38½-38½ |
| Cres. Steel com. 52½-54 | Un. Alloy Steel 38½-39 |
| Deere & Co. pf. 95½-95½ | U. S. Pipe com. 14½-15 |
| Gen. Electric 146½-149 | U. S. Pipe pf. 45½-45½ |
| Gr. No. Ore Cert. 37-38½ | U. S. Steel com. 88½-90½ |
| Gulf States Steel 49½-51 | U. S. Steel pf. 113½-114½ |
| Int. Har. com. 112-112½ | Westingh. Elec. 41½-42½ |
| Lackaw. Steel 63½-65½ | |

Dividends

The American Radiator Co., quarterly, 3 per cent and extra 4 per cent payable in Liberty Loan 4½ per cent bonds on the common, payable March 31, and 1½ per cent on the preferred, payable Feb. 15.

The Harbison-Walker Refractories Co., quarterly, 1½ per cent on the preferred, payable March 1.

The Niles-Bement-Pond Co., quarterly, 2½ per cent on the common, payable March 20, and 1½ per cent on the preferred, payable Feb. 20.

The Pratt & Whitney Co., quarterly, 1½ per cent on the preferred, payable Feb. 20.

The Studebaker Corporation, quarterly, 1 per cent on the common and 1½ per cent on the preferred, payable March 1.

Dominion Bridge Co. Report

The total profits of the Dominion Bridge Co., Montreal, Que., for the year amounted to \$2,477,009, compared with \$1,360,534 in 1917, an increase of \$1,116,475. After making deductions for depreciation, doubtful accounts, interest and exchange and directors' fees, net earnings of \$1,865,717 were shown, as compared with \$1,186,436 for the previous year, an increase of \$679,281. When necessary deductions for dividends are made a surplus of \$1,345,717 is shown, which compares with but \$56,316 in 1917, or an increase for the year of \$1,289,401. When the sum carried forward from the previous profit and loss account is added in, a total surplus at credit of this account of \$3,025,307 is shown, compared with \$1,679,590 in 1917, an increase of \$1,345,717 for the year.

Midvale Steel Earnings

Net profits of the Midvale Steel & Ordnance Co. for the year ended Dec. 31, 1918, were \$29,163,408, compared to \$34,235,503 for the preceding year, or the equivalent per share on the capital stock of \$14.58 for 1918, against \$17.12 for the year previous. For the last quarter the net profits were \$5,023,997, as compared to \$10,882,037 for the corresponding period of 1917.

Pacific Ocean Rates to Be Cut

An announcement has been made by Harold S. Eby, assistant director of operations of the United States Shipping Board, stationed at San Francisco, that, effective March 1, there will be a reduction in Pacific Ocean freight rates to the Orient from \$30 per deadweight ton to \$12. The new rates also include a reduction from \$35 to \$14 per measurement ton.

Marshall Foundry Co. Sells Out

PITTSBURGH, Feb. 11.—(By Wire).—The Marshall Foundry Co., Pittsburgh, manufacturer of ingot molds and heavy castings, has sold its entire business to the Valley Mold & Iron Corporation, Sharpsville, Pa., also a manufacturer of ingot molds. The Marshall Foundry Co. operated two plants, one at Pittsburgh, with a capacity of 200 tons of ingot molds per day, where it also made grey iron castings up to 50 tons in weight, the other at Josephine, Pa., with a capacity of 700 tons of ingot molds per day, securing at this plant molten iron from Josephine furnace of Josephine Furnace & Coke Co. By the purchase of the business of the Marshall Foundry Co., the Valley Mold & Iron Corporation will be by far the largest manufacturer of ingot molds in this country. The company has had two plants, one at Sharpsville, and the other at West Middlesex, Pa., with a combined daily capacity of about 1000 tons of ingot molds. The acquisition of the Marshall Foundry Co. will give it a daily capacity of about 1900 tons of ingot molds. The corporation obtains molten Bessemer iron for its Sharpsville plant from the Shenango Furnace Co., and for its West Middlesex plant it gets molten iron from Claire blast furnace of E. W. Mudge & Co., Pittsburgh.

Commerce with Germany and Northern Neutral Nations

WASHINGTON, Feb. 11.—Despite considerable pressure for the abandonment of the blockade against the Central Powers, there is no indication in Washington that such action is likely for a considerable time at least. Practically every conference that has been held here to stimulate consumption of American products and thus increase labor employment has made a reference to the question of changing the European blockade rules. Nobody here, however, has any authority to touch the subject, which is entirely in the hands of the Allied Military Council in Paris.

After a long delay, the Associated Governments have finally agreed upon a loosening up of the restrictions against the commerce of the Northern neutrals Holland, Norway, Sweden, and Denmark. These had been held under the strictest kind of surveillance, despite the armistice, because of the intimacy of their commercial relations with Germany. Now they have been greatly relaxed, and they can import almost anything they really need for their own use. But they must continue to give guarantees that nothing so imported will find its way to Germany, or will figure in any way in the German commerce.

American Steel Foundries' 1918 Earnings

Earnings of the American Steel Foundries for the year ended Dec. 31, 1918, were considerably less than those of 1917. The surplus, after charges and war taxes, amounted to \$2,695,727 for 1918, a falling off of \$150,385 from figures of the preceding year. On the \$17,184,000 capital stock, the surplus per share for last year was \$15.68, compared to \$32.13 of the year before. In 1917 the total income was \$8,038,674, while the following year it dropped to \$4,189,424. The Federal tax reserves for the past two years were as follows: 1917, \$2,287,600; 1918, \$1,357,200.

The American Metallurgical Corporation, Philadelphia, is installing a 225 kw. vertical heat-treating furnace of General Electric design in the plant of the Ohio Seamless Tube Co., Shelby, Ohio. This equipment is to be used in the heat treatment of seamless tubes for the aircraft department of the Government.

The Engineers' Club of Philadelphia will hold its next regular meeting, Feb. 18, at Witherspoon Hall. Major N. M. Hopkins of the Technical Research Bureau of the Ordnance Department will present a paper, illustrated with lantern slides, on "The Spirit and Outlook for Research and Invention."

Prices Finished Iron and Steel, f.o.b. Pittsburgh

Freight rates from Pittsburgh on finished iron and steel products, including wrought iron and steel pipe, with revisions effective Nov. 1, 1918, in carloads, to points named, per 100 lb., are as follows: New York, 27c.; Philadelphia, 24.5c.; Boston, 30c.; Buffalo, 17c.; Cleveland, 17c.; Cincinnati, 23c.; Indianapolis, 25c.; Chicago, 27c.; St. Louis, 34c.; Kansas City, 59c.; St. Paul, 49½c.; Denver, 99c.; Omaha, 59c.; minimum carload, 36,000 lb. to four last named points; New Orleans, 38.5c.; Birmingham, 57.5c.; Pacific Coast, \$1.25; minimum carload, 80,000 lb. To the Pacific Coast the rate on steel bars and structural steel is \$1.315, minimum carload 40,000 lb.; and \$1.25, minimum carload 50,000 lb. On wrought iron and steel pipe the rate from Pittsburgh to Kansas City is 50c. per 100 lb., minimum carload 46,000 lb.; to Omaha, 50c., minimum carload 46,000 lb.; to St. Paul and Minneapolis, 49.5c., minimum carload 46,000 lb.; Denver, 99c., minimum carload 46,000 lb. A 3 per cent transportation tax applies. On iron and steel items not noted above, rates vary somewhat and are given in detail in the regular railroad tariffs.

Structural Material

I-beams, 3 to 15 in.; channels, 3 to 15 in. angles, 3 to 6 in. on one or both legs, ¼ in. thick and over, and zebs, structural sizes, 2.80c.

Wire Products

Wire nails, \$3.50 base per keg; galvanized, 1 in. and longer, including large-head barb roofing nails taking an advance over this price of \$2. and shorter than 1 in., \$2.50. Bright basic wire, \$3.35 per 100 lb.; annealed fence wire, Nos. 1 to 9, \$3.25; galvanized wire, \$3.95; galvanized barb wire and fence staples, \$4.35; painted barbed wire, \$3.65; polished fence staples, \$3.65; cement-coated nails, \$3.40 base; these prices being subject to the usual advances for the smaller trade, all f.o.b. Pittsburgh, freight added to point of delivery. Terms 60 days net, less 2 per cent off for cash in 10 days. Discounts on woven-wire fencing are 58 per cent off list for carload lots, 57 per cent for 1000-rod lots, and 56 per cent off for small lots, f.o.b. Pittsburgh.

Bolts, Nuts and Rivets

Large structural and ship rivets.....\$4.40 base
Large boiler rivets.....\$4.50
1/16 in. x 6 in. smaller and shorter rivets.....
50-10 per cent off list
Machine bolts h.p. nuts, ¾ in. x 4 in.:
Smaller and shorter, rolled threads.....50-10-5 per cent off list
Cut threads.....50-5 per cent off list
Larger and longer sizes.....40-10 per cent off list
Machine bolts, c.p.c. and t. nuts, ¾ in. x 4 in.:
Smaller and shorter.....40-10 per cent off list
Larger and longer.....35-5 per cent off list
Carriage bolts, ¾ x 6 in.:
Smaller and shorter, rolled threads.....50-5 per cent off list
Cut threads.....40-10-5 per cent off list
Larger and longer sizes.....40 per cent off list
Lag bolts.....50-10 per cent off list
Flow bolts, Nos. 1, 2, 3.....50 per cent off list
Hot pressed nuts, sq., blank.....2.50c. per lb. off list
Hot pressed nuts, hex., blank.....2.30c. per lb. off list
Hot pressed nuts, sq., tapped.....2.30c. per lb. off list
Hot pressed nuts, hex., tapped.....2.10c. per lb. off list
C.p.c. and t. sq. and hex. nuts, blank.....2.25c. per lb. off list
C.p.c. and t. sq. and hex. nuts, tapped.....2.00c. per lb. off list
Semi-finished hex. nuts:
¾ in. and larger.....60-10-10 per cent off list
9/16 in. and smaller.....70-5 per cent off list
Stove bolts.....70-10 per cent off list
Stove bolts.....2½ per cent extra for bulk
Tire bolts.....50-10-5 per cent off list
The above discounts are from present lists now in effect.
All prices carry standard extras.

Wire Rods

No. 5 common basic or Bessemer rods to domestic consumers, \$57; chain rods, \$65; screw, rivet and bolt rods and other rods of that character, \$65. Prices c. high carbon rods are irregular. They range from \$70 to \$80, depending on carbons.

Railroad Spikes and Track Bolts

Railroad spikes 9/16 in. x 4½ in. and heavier, per 100 lb., \$3.70, in lots of 200 kegs of 200 lb. each, or more; track bolts, \$4.90. Boat spikes, \$5.05 per 100 lb., f.o.b. Pittsburgh.

Terne Plate

Prices of terne plate are as follows: 8-lb. coating, 200 lb., \$14.50 per package; 8-lb. coating, I. C., \$14.80; 12-lb. coating, I. C., \$16.50; 15-lb. coating, I. C., \$17.50; 20-lb. coating, I. C., \$18.75; 25-lb. coating, I. C., \$20.00; 30-lb. coating, I. C., \$21.00; 35-lb. coating, I. C., \$22.00; 40-lb. coating, I. C., \$23.00 per package, all f.o.b. Pittsburgh, freight added to point of delivery.

Iron and Steel Bars

Steel bars at 2.70c. from mill. Relined iron bars, 2.90c. common iron bars, 3.50c. in carload and larger lots, f.o.b. mill.

Wrought Pipe

The following discounts are to jobbers for carload lots on the Pittsburgh basing card.

| Steel | | | Iron | | |
|-------------------------------------|-------|-------|------------------------------------|-------|-------|
| Inches | Black | Galv. | Inches | Black | Galv. |
| 1/8, 1/4 and 3/8 | 47 | 20½ | 1/8 and 1/4 | 26 | +1 |
| 1/2 | 51 | 36½ | 3/8 | 27 | +2 |
| 3/4 to 3 | 54 | 40½ | 1/2 | 31 | +12 |
| | | | 3/4 to 1½ | 36 | +29 |
| Butt Weld | | | Lap Weld | | |
| 2 | 47 | 34½ | 1½ | 21 | 4 |
| 2½ to 6 | 50 | 37½ | 1½ | 28 | 14 |
| 7 to 12 | 47 | 33½ | 2 | 29 | 15 |
| 13 and 14 | 37½ | .. | 2½ to 6 | 31 | 18 |
| 15 | 35 | .. | 7 to 12 | 28 | 15 |
| Butt Weld, extra strong, plain ends | | | Lap Weld, extra strong, plain ends | | |
| 1/8, 1/4 and 3/8 | 43 | 25½ | 1/8, 1/4 and 3/8 | 25 | 8 |
| 1/2 | 48 | 35½ | 1/2 | 30 | 17 |
| 3/4 to 1½ | 52 | 39½ | 3/4 to 1½ | 36 | 21 |
| 2 to 3 | 53 | 40½ | | | |
| Lap Weld, extra strong, plain ends | | | Lap Weld, extra strong, plain ends | | |
| 2 | 45 | 33½ | 1½ | 22 | 7 |
| 2½ to 4 | 48 | 36½ | 1½ | 28 | 14 |
| 4½ to 6 | 47 | 35½ | 2 | 30 | 17 |
| 7 to 8 | 43 | 29½ | 2½ to 4 | 32 | 20 |
| 9 to 12 | 38 | 24½ | 4½ to 6 | 31 | 19 |
| | | | 7 to 8 | 23 | 11 |
| | | | 9 to 12 | 18 | 6 |

To the large jobbing trade an additional 5 per cent is allowed over the above discounts, which are subject to the usual variations in weight of 5 per cent.

On butt and lap weld sizes of black iron pipe, discounts for less than carload lots to jobbers have been seven (7) points lower (higher price) than carload lots, and on butt and lap weld galvanized iron pipe have been nine (9) points lower (higher price).

Boiler Tubes

The following are the prices for carload lots, f.o.b. Pittsburgh:

| Lap Welded Steel | | Charcoal Iron | |
|---|-------|---------------|-------|
| 3½ to 4½ in. | 37 | 3½ to 4½ in. | 12½ |
| 2½ to 3½ in. | 27 | 3 to 3½ in. | +2 |
| 1½ in. | 20½ | 2½ to 2¾ in. | +4½ |
| 1¾ to 2 in. | 16 | 2 to 2½ in. | +19½ |
| | | 1¾ to 1½ in. | +22 |
| Standard Commercial Seamless—Cold Drawn or Hot Rolled | | Per Net Ton | |
| 1 in. | \$334 | 1¾ in. | \$214 |
| 1½ in. | 274 | 2 to 2½ in. | 184 |
| 1¾ in. | 264 | 2½ to 3¾ in. | 174 |
| 1½ in. | 214 | 4 in. | 154 |
| | | 4½ to 5 in. | 134 |

These prices do not apply to special specifications for locomotive tubes nor to special specifications for tubes for the Navy Department, which will be subject to special negotiation.

Sheets

Makers' price for mill shipments on sheets of United States standard gage in carload and larger lots are as follows:

| Blue Annealed—Bessemer | | Cents per lb. |
|------------------------|-------|---------------|
| No. 8 and heavier | ..... | 3.85 |
| Nos. 9 and 10 (base) | ..... | 3.99 |
| Nos. 11 and 12 | ..... | 3.95 |
| Nos. 13 and 14 | ..... | 4.00 |
| Nos. 15 and 16 | ..... | 4.10 |

Box Annealed, One Pass Cold Rolled—Bessemer

| | | |
|----------------|-------|------|
| Nos. 17 to 21 | ..... | 4.50 |
| Nos. 22 and 24 | ..... | 4.55 |
| Nos. 25 and 26 | ..... | 4.60 |
| No. 27 | ..... | 4.65 |
| No. 28 (base) | ..... | 4.70 |
| No. 29 | ..... | 4.80 |
| No. 30 | ..... | 4.90 |

Galvanized Black Sheet Gage—Bessemer

| | | |
|----------------|-------|------|
| Nos. 10 and 11 | ..... | 5.05 |
| Nos. 12 and 14 | ..... | 5.15 |
| Nos. 15 and 16 | ..... | 5.20 |
| Nos. 17 to 21 | ..... | 5.45 |
| Nos. 22 and 24 | ..... | 5.60 |
| Nos. 25 and 26 | ..... | 5.75 |
| No. 27 | ..... | 5.90 |
| No. 28 (base) | ..... | 6.05 |
| No. 29 | ..... | 6.30 |
| No. 30 | ..... | 6.55 |

Tin-Mill Black Plate—Bessemer

| | | |
|-----------------|-------|------|
| Nos. 15 and 16 | ..... | 4.50 |
| Nos. 17 to 21 | ..... | 4.55 |
| Nos. 22 to 24 | ..... | 4.60 |
| Nos. 25 and 27 | ..... | 4.65 |
| No. 28 (base) | ..... | 4.70 |
| No. 29 | ..... | 4.75 |
| No. 30 | ..... | 4.75 |
| Nos. 30½ and 31 | ..... | 4.80 |

Metal Markets

The Week's Prices

Cents per Pound for Early Delivery

| | Copper, New York | | Tin, New York | | Lead, New York | | Spelter, New York | |
|---------|------------------|-------|---------------|-----------|----------------|-----------|-------------------|-----------|
| | Electro-lytic | Lake | New York | St. Louis | New York | St. Louis | New York | St. Louis |
| Feb. 10 | 18.50 | 18.50 | 72.50 | 5.00 | 4.70 | 6.70 | 6.35 | |
| 8 | 18.50 | 18.50 | 72.50 | 5.00 | 4.70 | 6.65 | 6.30 | |
| 7 | 19.00 | 18.25 | 72.50 | 5.00 | 4.70 | 6.60 | 6.25 | |
| 6 | 19.00 | 18.25 | 72.50 | 5.00 | 4.70 | 6.70 | 6.35 | |
| 5 | 18.50 | 18.00 | 72.50 | 5.00 | 4.70 | 6.80 | 6.45 | |
| 4 | 18.50 | 18.00 | 72.50 | 5.00 | 4.70 | 6.85 | 6.50 | |

NEW YORK, Feb. 11.

Buying is on a very small scale, and the tendency in most metals has been downward. Copper has declined further on a small volume of business. Tin is entirely lifeless. Lead is believed to have nearly reached bottom. Spelter has firmed a little. Antimony is lower.

New York

Copper.—Electrolytic copper has continued to decline gradually until on sales of relatively small quantities it has reached 18c., New York. It is claimed that this level can be slightly shaded. The quantity sold would not be regarded by some as sufficient to establish a market in normal times. Lake copper is nominal at about 18.50c., New York. The interesting feature of the week was the conference in Washington on miners' wages and the re-establishment of the sliding scale on a basis of 18c. copper. It was given out that sales for 75 days had not amounted to 5 per cent of output and that copper stocks on hand at mill, smelter, in transit and at refineries were about 1,000,000,000 lb., representing over \$175,000,000 tied up in stock. The inference from this was that this surplus was produced at a cost of about 17.50c. per lb. A billion pounds is said to represent over eight months' domestic consumption and exports. Some regard the situation as having nearly reached a stable price basis. Stocks of copper in Great Britain on Feb. 1 are reported as 41,882 tons, an increase of 5882 tons over those on Jan. 1.

Tin.—The market continues dull and devoid of interest so far as transactions are concerned. These continue almost impossible. It is now rumored that the authorities still controlling the tin situation may restrict all outside dealing in tin by dealers, importers or American smelters until the allocated tin has been all absorbed, estimated at about 6000 tons. In fact, it is understood that purchase permits of American 99 per cent tin have been refused when involving over 5 tons. Straits tin is nominal at 72.50c., New York, the fixed price, with practically only the allocated metal available. American 99 per cent metal is available, at least in moderate quantities, at 66c. to 67c. per lb.

Lead.—The market continues dull and inactive. The American Smelting & Refining Co. again reduced its price last Friday $\frac{1}{4}$ per cent, to 5c., New York, or 4.70c., St. Louis, and the outside market has continued at the same level. The present price is regarded by some as attractive, and some consumers have manifested an interest. A buying movement in the near future is regarded as not improbable. The principal difficulty is the slow sale of lead products. Great Britain's stocks of lead on Feb. 1 were 76,493 tons, an increase of 13,641 tons over Jan. 1.

Spelter.—Late last week there was some speculation in prime Western which drove the price as low as 6.25c., St. Louis, but this failed of its ultimate object apparently. At the same time a fair demand appeared from a few galvanizers, so that the resultant effect of the two factors caused the market to firm slightly. To-day early delivery is quoted at 6.50c., St. Louis, or 6.85c., New York, but demand continues light. It is probable that grade A zinc could be bought at 8c. to 8.50c., but demand for this is negligible. Stocks of ordinary spelter in Great Britain on Feb. 1 were 23,905 tons, an increase of 1782 tons over Jan. 1.

Antimony.—Wholesale lots of antimony can be bought at about 7.12 $\frac{1}{2}$ c. per lb. for early delivery, duty paid. Demand is not brisk.

Aluminum.—The Government maximum prices of 33c. per lb. for 50-ton lots, 33.10c. per lb. for 15 to 50-ton lots and 33.20c. per lb. for 1 to 15-ton lots for virgin metal and for scrap are regarded as nominal, as the metal is obtainable under these levels, which are effective until March 1.

Old Metals.—Prices are a little lower in sympathy with new metals, but business is very dull. Dealers' selling prices are nominally as follows:

| | Cents Per Lb. |
|---|---------------|
| Copper, heavy and crucible | 18.00 |
| Copper, heavy and wire | 17.00 |
| Copper, light and bottoms | 14.50 |
| Brass, heavy | 12.50 |
| Brass, light | 9.50 |
| Heavy machine composition | 18.00 |
| No. 1 yellow rod brass turnings | 10.00 |
| No. 1 red brass or composition turnings | 15.00 |
| Lead, heavy | 4.50 |
| Lead, tea | 3.25 |
| Zinc | 5.25 |

St. Louis

FEB. 10.—Non-ferrous metals have been quiet the past week, lead in carloads closing at 4.70c., with no business and the tone generally dull and weak. Spelter, carloads, was stronger with the close at 6.45c., St. Louis. In less than carloads, lead was 5.50c.; spelter, 7.25c.; tin, 72.50c.; copper, 20c.; antimony, 8.50c. In the Joplin district ore was featureless and while a considerable tonnage was sold, the market was irregular and the range low on blende, calamine and lead. On miscellaneous scrap metals we quote dealers' buying prices, as follows: Light brass, 7c.; heavy yellow brass, 10c.; heavy red brass, 14.50c.; light copper, 14c.; heavy copper and copper wire, 15c.; pewter, 40c.; tinfoil, 45c.; zinc, 3.50c.; lead, 4c.; tea lead, 4c.; aluminum, 20c.

Chicago

Feb. 10.—The reduction in the price of copper has not stirred consumers into buying. There are few inquiries for any of the metals and no features are presented. Old metals show declines. We quote copper at 20c. to 21c. for carloads; tin, 72.50c.; lead, 5.05c.; spelter, 6.75c.; antimony, 8.50c. to 9c. On old metals we quote copper wire, crucible shapes, 14c.; copper clips, 13.50c.; copper bottoms, 11.50c.; red brass, 13.50c.; yellow brass, 9c.; lead pipe, 3.50c.; zinc, 4c.; pewter, No. 1, 30c.; tinfoil, 35c.; and block tin, 45c.

Members of the clerical force of the Edgar Thomson steel works of the Carnegie Steel Co. at Bessemer, Pa., held their first annual banquet at the Seventh Avenue Hotel, Pittsburgh, on Saturday evening, Feb. 8. The guests of honor included C. E. Dinkey, general superintendent of the Edgar Thomson steel works; John F. Lewis, assistant superintendent; D. E. F. Gray, chief clerk, and other officials of the Edgar Thomson works. F. E. Flick, superintendent of production, acted as toastmaster. It is proposed to hold a similar banquet every year.

Instructions for crane operators have been prepared in a convenient form by the Cleveland Crane & Engineering Co., Wickliffe, Ohio. These are printed in large type on a heavy celluloid-faced board 10 x 14 in., and include illustrations of the standard crane signals adopted by the National Safety Council, general instructions for the operation of cranes, and also instructions for their care. These instruction posters will be sent to any crane user on request.

The distribution of 3000 shares of the stock of the Wagner Electric Mfg. Co., St. Louis, to officers, department executives and their immediate principal assistants, is announced by W. A. Layman, president of the company. The stock will be sold to these men at par, although it is now quoted on the market at \$125 a share.

PERSONAL

The General Combustion Co., Chicago, has appointed the following representatives: C. W. Bartlett, 1001 Illuminating Building, Cleveland; W. H. Rue, 1028 Real Estate Trust Building, Philadelphia, handling southern New Jersey, Pennsylvania, Delaware, Maryland, Virginia and West Virginia; W. O. Kellogg, formerly with General Electric Co., 51 East Forty-second Street, New York; P. J. Woolf, 989 Dorchester Street, Montreal, Canada; R. J. Kirchner, Dime Bank Building, Detroit; H. L. Blankenburg, Merchants' and Manufacturers' Building, Milwaukee.

R. D. Love, formerly of the Betz-Pierce Co., Cleveland, and recently returned from a military training camp, is now connected with the sales organization of the United Alloy Steel Corporation, Canton, Ohio.

A. J. Eddy has resigned from the directorate of American Steel Foundries on account of press of other business.

Albert A. Corey, superintendent Homestead steel works of the Carnegie Steel Co., Homestead, Pa., recently gave a dinner in the Homestead Club to the business men of Homestead and vicinity.

William Roberts, superintendent Valley Mold & Iron Corporation, Sharpsville, Pa., builder of ingot molds, has been elected a member of the Shenango Valley Americanization Committee, succeeding the late George P. Devitt.

Gen. Guy E. Tripp, chairman of board of Westinghouse Electric & Mfg. Co., Pittsburgh, has sailed for Europe to make a survey of business conditions in the interests of his company.

A. H. Willey, Reliance Steel & Tool Co., New York, plans to sail on Feb. 19 for a few months' trip through Great Britain, France, Spain, Italy, Holland, Belgium and Scandinavia. He is planning to establish reciprocal trade relations, involving thus both import and export business.

Wheelock, Lovejoy & Co., Inc., Cambridge, Mass., have added to their chain of branch offices covering New York and Cleveland a new sales office for the Middle West, located in the Book Building, Detroit, in charge of Edwin P. Gaffney, district manager. This office began operations on Feb. 3.

Huntly H. Gilbert, who left the service of the Pressed Steel Car Co. and Western Steel Car & Foundry Co. at the start of the war, to enter the army as captain in the Ordnance Department at Washington, and later was commissioned major and transferred to the Rock Island Arsenal, has re-entered the service of the above-named companies as assistant manager of sales, Western District, located at 425 People's Gas Building, Chicago.

Arthur G. Brown, former assistant manager of the sheet and tin plate department of the United States Steel Products Co., has become manager of A. C. Rulofson Co., San Francisco, Western sales managers, representing the Brier Hill Steel Co., the Pittsburgh Steel Co., and the National Chain Co., and other Eastern manufacturers.

Paul Campbell has been appointed factory manager of the Electric Service Supplies Co., Philadelphia. Through the greater part of 1918 Mr. Campbell was connected with the New York district office of the Bureau of Aircraft Production as a special investigator of production problems in the New England states, previously having been production manager for the James Cunningham Son & Co., Rochester, N. Y., and superintendent of the F. B. Stearns Co., Cleveland.

Edward H. Mays, president E. G. Long Co., 50 Church Street, New York, will leave on March 1 for the Far East to give personal attention to his company's interests in Japan and China.

Officers of C. H. Westerberg & Co., Inc., 9 West Broadway, New York, recently incorporated, are C. H. Westerberg, president; A. M. Maddox, vice-president; Charles Westerberg, treasurer, and E. Goebbrig, secretary.

The Rich Tool Co., Chicago, announces the appointment of J. L. Crowley as special railroad representative with headquarters at the company's main offices, Railway Exchange Building, Chicago; also of H. W. Ullman, as sales representative in the St. Louis territory, with offices at 203 Security Building, St. Louis.

Le Roy Richards, who has received his honorable discharge from the United States Army, having served as a captain in France, has been appointed sales agent of the Nagle Steel Co., Pottstown, Pa., for the Philadelphia territory. This company has opened an office at 1411 Morris Building, Philadelphia. Mr. Richards was for a number of years Philadelphia sales agent for the Worth Brothers Co. before its absorption by the Midvale Steel & Ordnance Co.

John F. Nealis, who recently received his discharge from the aero observers branch of the service, is now associated with the Powdered Coal Engineering & Equipment Co., Chicago, as advisory engineer. Mr. Nealis formerly had charge of research work for the U. S. Steel Corporation.

Frank S. Chavannes, president Chesapeake Iron Works, Baltimore, has gone to Cuba to spend several weeks.

W. F. Roberts, general manager Sparrows Point, Md., plant, Bethlehem Steel Co., and Holden A. Evans, president Baltimore Dry Docks & Shipbuilding Co., Baltimore, are among the members of the board of directors of the Export and Import Board of Trade, recently formed for the purpose of increasing foreign trade at Baltimore.

Major Reuben Hill, former works manager of the Detroit Lubricator Co., Detroit, who organized that company's plant in Walkerville, Ont., for the manufacture of British ammunition, has just returned to Detroit from France, where he was on the staff of technical experts in the engineering division of the artillery ammunition.

The Inland Steel Co. of Chicago has opened a branch office in Detroit at 414 Ford Building. The Michigan territory, with headquarters at Detroit, has been placed in charge of P. M. Lorenz, well known in Detroit manufacturing circles through frequent visits to that city representing the Inland Steel Co.

Gustave Huette, Sheboygan, Wis., founder and for many years president of the Falls Machine Co., now the Falls Motors Corporation, Sheboygan Falls, Wis., has disposed of his final holdings in the company and will retire.

The Liberty Steel Co., Warren, Ohio, announces the appointment of J. H. Fitch, Jr., as assistant general manager of sales, effective at once.

Lester E. Armstrong has accepted a position as advisory engineer with the Powdered Coal Engineering & Equipment Co., Chicago. Prior to his service in the air branch of the Army Mr. Armstrong was associated with Babcock & Wilcox.

John Anderson has resumed his duties as assistant to the president of the Trumbull Steel Co., Warren, Ohio, after training with the light artillery at Camp Taylor, Louisville, Ky.

N. A. Booze, for a number of years secretary of the Machinist's Supply Co., has joined the Federal Machinery Sales Co., 12 North Jefferson Street, Chicago, taking effect Feb. 17. Mr. Booze was one of the organizers of the Machinery Club of Chicago, served as its secretary, and is among those responsible for its successful start.

William J. Powney, who for a number of years has been the superintendent of the rod mill of the Inter-

state Iron & Steel Co., has resigned to take the position of general superintendent of the new hoop mill now being erected by the Acme Steel Goods Co. on the Calumet River, adjoining Chicago city limits.

The Electric Steel Co. of Indiana, Indianapolis, has opened an office in the Penobscot Building, Detroit, Mich., with A. J. Kinnucan as district manager.

The Pacific Coast Steel Co., Seattle, has opened sales offices at 52 Broadway, New York, with L. G. Knight as manager of sales in eastern territory. Mr. Knight has been connected with the Seattle office for several years, and will have jurisdiction over sales of products from the Seattle and San Francisco mills, as well as the plant being built at Portland.

Major George D. Wilcox, who conducted the Detroit district of the motor division of the Quartermaster Corps, has been honorably discharged and has returned to the Commerce Motor Car Co., Detroit, as director of sales and advertising.

W. H. Luhrs, general manager and a member of the board of directors of the General Aluminum & Brass Mfg. Co. of Detroit, has severed his connection with the company.

William A. Folger, second vice-president Berger & Carter Co., San Francisco, owner of the Pacific Tool & Supply Co., is preparing to leave immediately for a two months trip east.

On Feb. 1 J. G. Osgood, lately manager of pneumatic tool sales for the Chicago Pneumatic Tool Co., and for 12 years a member of the sales organization, became general sales and service manager of the Keller Pneumatic Tool Co., Chicago and Grand Haven, Mich. The sales and service departments have been moved to 20 East Jackson Boulevard, Chicago.

James T. McCleary, secretary American Iron and Steel Institute, will address the New York section of the National Safety Council at the Safety Institute of America, 14 West Twenty-fourth Street, New York, on Thursday evening, Feb. 13, on "National Safety."

Thomas Blagden, Jr., and H. B. Allen, both of the New York sales offices of the Bethlehem Steel Co., have joined the Consolidated Steel Corporation, 165 Broadway, New York. Mr. Allen will have charge of sales of bolts, nuts, rivets, spikes and related products, as he had with the Bethlehem company, and Mr. Blagden will have charge of rails, frogs, switches, etc.

OBITUARY

WILLIAM J. SLATTERY, for 40 years connected with the steel wire business, died Feb. 3 in the Brooklyn Hospital, aged 67. In his early years he was a wire drawer with Washburn & Moen, and later he was with the Pittsburgh Wire Co. Of late he had held a confidential and responsible position with the United States Steel Products Co., New York. He was born at Northampton, Mass.

WILLIAM D. HENRY, president National Fire Proofing Co., and largely identified with other Pittsburgh manufacturing concerns, died of pneumonia at his home in Sewickley, Pa., Feb. 6, after a week's illness. He was also president National Fire Proofing Co., Ltd., of Canada, the Diamond Forging & Mfg. Co. and the Gage Coal & Coke Co. of Pittsburgh.

RALPH C. MURDOCH, aged 46 years, died on Saturday, Feb. 8, in the Westmoreland Hospital, Greensburg, Pa., following an operation. He was vice-president of the Iron City Electric Co. and the Iron City Engineering Co., both of Pittsburgh. He is survived by his wife and three sons.

HERBERT WOODRUFF MERRILL, secretary-treasurer Mitts & Merrill, Saginaw, Mich., manufacturers of key-seating machines, died Jan. 26.

German Destruction of Belgian Steel Plants

Our British correspondent sends the following statement regarding the present condition of some steel plants in Belgium as a result of German occupation:

Some news has recently come through regarding various industrial works in Belgium. It appears that the well-known John Cockerill works at Seraing, Belgium, were very badly damaged by the Germans. The buildings are to a large extent destroyed. Machinery has been entirely removed in some cases and in others put out of action, and it is estimated that the works are not likely to operate for nearly two years. Reports with regard to the Ougrée steel works speak of considerable wanton destruction there also, two out of the four 40-ton furnaces having been smashed to pieces, while one of the two pig iron mixers has vanished. Eight boilers out of 15 had been sent to Germany and of 12 rolling mills but three remain.

Opportunity to Employ High-Grade Men

Engineers, executives, men of college training and practical experience in business and technical fields are now being released from the Army, Navy and war work. The Professional and Special Section of the U. S. Employment Service, a branch of the Department of Labor, has been organized for the benefit of employers in need of these men. The service is entirely free of charge.

The U. S. Employment Service is now divided into two great zones for the purposes of the Professional and Special Section. The New York office, headquarters for the Eastern Zone, at 16 East 42nd street, is in charge of the following States: Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, Delaware, Ohio, Maryland, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida and Alabama.

The Chicago office, headquarters for the Central Zone, at 63 East Adams street, is in charge of all remaining States. Later zone offices will be established to take charge of part of the territory now in the Chicago zone.

Will Take Care of Soldiers

All former employees who resigned from the Packard Motor Car Co., Detroit, to directly enlist in the United States Army or Navy, or who were drafted while in the employ of that company, are to be given their old jobs back on their return, even though it is necessary to displace employees now occupying those jobs, according to a statement by Alvan Macauley, president and general manager. Also, they are to be given the pay which they would have been receiving had they remained in their jobs instead of going to war. In other words, where rates have advanced during their absence they are to be given the advantage of these increased rates.

This will affect over three thousand employees who left the company to enter the service of the Government if all of them return to apply for their old positions.

Timely emphasis of the importance of economy in coal consumption in peace times, as well as during war, is called to the attention of industrial establishments by the new wall card issued by the Pennsylvania Crusher Co., Stephen Girard Building, Philadelphia. "Let us not waste this stuff" is the message; and the pledge of the company is that it intends to do its full share and seek to work with those who are interested in keeping coal out of the waste pile.

In an article describing the new Thomas meter instrument panel in THE IRON AGE, Jan. 23, the last sentence, "It is constructed jointly by the Leeds & Northrup Co., Philadelphia, and the Cutler-Hammer Mfg. Co.," applies to the galvanometer only, as the panel and other instruments are made by the Cutler-Hammer Mfg. Co. exclusively.

Blast Furnaces to Be Built in India

A new blast furnace plant will be erected in India by the Indian Iron & Steel Co., Ltd., Calcutta, which has been organized with a capital stock of £1,000,000. The plant will consist of two 350-ton blast furnaces, a by-product coke plant with a daily capacity of 500 tons, a recovery plant for the manufacture of coal tar and ammonia sulphate, and a plant for the manufacture of sulphuric acid used in the recovery processes. The plant will be located at Asansol in the Bengal coal fields, about 130 miles from Calcutta, where the company will operate its own coaleries. It has acquired 250 sq. miles of iron ore properties which are located about 130 miles from the site of the plant. Both foundry and basic iron will be made.

The contract for the blast furnaces has been awarded to Arthur G. McKee & Co., contractors and engineers, Cleveland, who will supervise the erection, which will be done by Burn & Co., engineers and contractors, Calcutta, who are promoting the new plant. The by-product plant will be furnished by the Simon-Carbes Co., Manchester, England, and the power plant will also be obtained in England.

G. H. Fairhurst is managing director of the company and is at present in the United States in connection with the placing of contracts. He plans to buy three or four electric traveling cranes and two or three locomotive cranes before sailing back to India early in March. Mr. Fairhurst is managing director and partner in Burn & Co., and for eight years was general manager of the Bengal Iron & Steel Co. He plans to have the first of the two furnaces in operation early in 1921. At present there are seven blast furnaces in India.

Large Decrease in Steel Corporation Orders

Unfilled orders on the books of the United States Steel Corporation, Jan. 31, were 6,684,268 tons, compared with 7,379,152 tons on Dec. 31. This is a decline of 694,884 tons. While large, it is less than the decline in December, when it was 745,511 tons. The unfilled orders a year ago, Jan. 31, 1918, amounted to 9,477,853 tons, while now they are the smallest since October, 1915. The table below gives the unfilled tonnage for the Steel Corporation at the close of each month beginning with January, 1916:

| | 1919 | 1918 | 1917 | 1916 |
|-----------|-----------|-----------|------------|------------|
| January | 6,684,268 | 9,477,853 | 11,474,054 | 7,922,767 |
| February | | 9,288,453 | 11,576,697 | 8,568,966 |
| March | | 9,056,404 | 11,711,644 | 9,331,001 |
| April | | 8,741,882 | 12,183,083 | 9,829,551 |
| May | | 8,337,623 | 11,886,591 | 9,937,798 |
| June | | 8,918,866 | 11,383,287 | 9,640,458 |
| July | | 8,883,801 | 10,844,164 | 9,593,592 |
| August | | 8,759,042 | 10,467,049 | 9,660,357 |
| September | | 8,297,905 | 9,833,477 | 9,522,584 |
| October | | 8,353,293 | 9,009,675 | 10,015,260 |
| November | | 8,124,663 | 8,897,106 | 11,058,542 |
| December | | 7,379,152 | 9,381,718 | 11,547,286 |

Industrial Medicine Department of University of Cincinnati

The University of Cincinnati will establish an industrial medicine and public health department for the purpose of educating doctors for special service in industrial establishments. Tentative plans under way are to conduct the department on a co-operative basis and to a certain extent adopt the plan of training students now in force by the university's co-operative engineering department, introduced a few years ago by Dean Herman Schneider of the engineering department.

On the evening of Feb. 8, manufacturers and business men of Cincinnati were guests at a dinner given at the Cincinnati Milling Machine Co.'s plant in Oakley, at which meeting Dr. Otto P. Geier presided. Dr. C. D. Selby, Washington, consulting hygienist, United States Public Health Service, was one of the principal speakers, and strongly supported the plan. He said in part: "Ordinary medical training does not teach a physician to apply his knowledge to needs of industrial workers." He called attention to the fact that most manufacturers had a doctor in charge of their medical departments

only to attend to injuries which in reality should be a small part of his work. "The industrial physician," he said, "can teach the man on the job how to live and take care of his health. He can teach men how to live in their homes, and he should co-operate with city and State health authorities in the prevention of disease." Dr. Selby also thought that a well-trained physician would be invaluable to the employment department in properly placing new men.

Major C. R. Holmes, head of the College of Medicine, University of Cincinnati, pleaded for the establishment of the department, and gave an estimate of its maintenance cost. He was followed by other speakers who strongly indorsed the plan, all pledging their financial support.

Fred A. Geier, president, Cincinnati Milling Co., was selected as chairman to head the organization formed for raising the necessary funds and making arrangements to establish the proposed industrial medicine department to be conducted by the university.

Youngstown Sheet & Tube Co. Earnings

YOUNGSTOWN, O., Feb. 11 (By wire).—The report of President James A. Campbell, of the Youngstown Sheet & Tube Co. for 1918, delivered at the annual stockholders' meeting Tuesday, Feb. 11, showed total earnings of \$25,952,118.66, divided as follows: \$24,675,580, earnings from operations, and \$1,276,538.66, earnings from investments. For depreciation of plants \$2,500,000 was charged off; \$1,499,256.36 was credited to adjustment of inventories and \$7,363,373.75 to adjustment in cost of construction for war purposes and other miscellaneous adjustments, a total of \$11,362,630.11.

Net profits for the year were \$14,589,488.55; dividends paid were \$4,394,721, leaving a net surplus of \$10,194,767.55.

"There has been no provision for Federal taxes and they may be sufficient in amount to wipe out the entire surplus earnings for the year," stated Mr. Campbell.

Shipments were 35,000 tons less than in 1917, while total sales were \$5,000,000 less than during the preceding year, he reported. On this basis gross business approximated \$84,500,000.

The payroll for the year was \$22,157,000 on a reduced tonnage, compared with \$16,396,000 for 1917.

Inquiries from Foreign Countries

YOUNGSTOWN, OHIO, Feb. 10.—Sales officials of district mills state inquiries for heavy tonnages of steel for export are being received from Great Britain, France and Italy. Scotland has been inquiring for skelp, pig iron and other unfinished material. The other countries are in the market for billets, sheet bars and semi-finished products. Options for two weeks were sought on tonnage in all inquiries from abroad. All foreign business of five major corporations in the district, Youngstown Sheet & Tube, Republic Iron & Steel, Brier Hill Steel, Trumbull Steel and Sharon Steel Hoop companies is placed through the Consolidated Steel Companies.

Mill operations averaged somewhat better than 70 per cent of normal this week. For three days the sixteen sheet mills of the Youngstown Sheet & Tube Co. were idle. At the works of the DeForest Sheet & Tinplate Co., Niles, only three of the ten mills operated, while schedules were backward at the Mahoning Valley Steel Co., operating six mills.

The Steel Club has been organized by the sales managers of steel companies in Philadelphia. William L. Hoffman, district sales manager Brier Hill Steel Co., Youngstown, Ohio, was elected president and Frank W. Jones, district sales manager Eastern Steel Co., Pottstown, Pa., secretary and treasurer. The club will have a membership of about 50. A monthly luncheon will be held and business will be taboo, the purposes of the club being social.

The new plate mill of the Dominion Foundries & Steel Co. will be built at Hamilton, Ont., and not at Hamilton, Ohio, as stated in THE IRON AGE of Feb. 6.

Machinery Markets and News of the Works

WAR TOOLS ARE DWINDLING

Estimates Now Range from \$30,000,000 to \$50,000,000

Some Machine-Tool Builders Oppose Resale Plan —Business Shows Improvement

Washington dispatches to THE IRON AGE report that the inventory of surplus machine tools owned by the War Department has not been completed, but it is now apparent that early estimates of the value of this equipment were greatly excessive, the figures now having dwindled to about \$30,000,000, with \$50,000,000 as the outside estimate.

The Director of Sales of the War Department has approved the sale of 59 cranes to France.

The Emergency Fleet Corporation is reported to have sent a representative to France to negotiate for the sale of considerable shipbuilding equipment now in that country, and also to propose the sale of a large Pacific Coast shipbuilding plant, which was begun but not completed owing to the ending of the war.

The machine-tool industry expects that the War Department will offer to turn back tools to the builders at 75 per cent of their present selling price, thus allowing 25 per cent to cover expenses of rehandling and the dealer's commission of 10 to 15 per cent. The prices at which the tools were sold to the Government will not figure in the transactions, but sales by the Government will be based on present selling prices, which are in some instances 10 per cent or more below those which the Government paid.

Meetings were held in various machine-tool centers last Friday to consider ways and means of disposing of the Government tools. Albert E. Newton, president National Machine Tool Builders' Association, was appointed to go to Washington to confer with Director of Sales C. W. Hare of the War Department. Some ma-

chine-tool builders have not approved the proposal of Director Hare that the builders buy back tools from the Government. It is expected that the situation may be relieved if a bill now before Congress to allot freely the Government's surplus tools among educational institutions should become law. Present conditions, it is stated, do not encourage machine-tool builders to invest in either new or used machinery. Moreover, its condition and location and quantity need accurate determination in detail before negotiations can progress far.

The Ford Motor Co., Detroit, is one of the largest buyers of machine tools. In addition to the purchase of 60 Bullard multiple vertical turret lathes, which was reported last week, it has bought about 100 Fellows gear shapers.

During the past few weeks several very large orders for machine tools have been placed with builders in this country by foreign selling representatives. One Eastern builder received an order for 300 grinders to be shipped to Norway during the year. Some stock orders placed by English houses have been rushed so that shipment could be made for the tools to reach England before the embargo goes into effect on March 1.

The Bartlett Hayward Co., Baltimore, has issued a large list of equipment wanted for a ship repair plant. The Standard Oil Co. of New Jersey wants about 40 machine tools, mostly engine lathes, for shipment to the Rumanian oil fields. The Carlson, Wenstrom Co., Philadelphia, is obtaining quotations on a list of tools. The Navy Department continues to buy for various shipyards.

A number of New England plants, turning over to peace-time work, are buying equipment. The General Ordnance Co., Derby, Conn., will build tractors under the name of the National Tractor Co. Some equipment was bought last week. The Nelson Blower Co., South Boston, will also make tractors. The Marine Engineering & Dry Dock Co. may build a large ship repair plant at Providence, R. I., and is getting prices on a list of equipment.

New York

NEW YORK, Feb. 11.

While a great many inquiries for machine tools are being secured actual sales are almost negligible so far this month. January was a better month than was expected, and in many cases sales during that month made a very fair comparison with normal months before the war.

It has been learned that a great many of the inquiries are sent out by manufacturers for inventory purposes or to be used as a basis in settling claims against the Government on war contracts. Many of the inquiries ask for 1914 selling prices as well as those in effect at present. Users of machine tools are figuring out what their requirements will be as business develops favorably, and they are getting quotations to be used for comparison with the prices which may be quoted later in the year, when they may come into the market with the intention of placing orders.

A good deal of complaint is registered by prospective purchasers against so-called "war-time prices." A few machinery dealers have been advising the builders to make price reductions. Several makers of high-speed ball-bearing drilling machines have made cuts of about 10 per cent, and there are reports of other reductions. So many new and used engine lathes are now on the market that a few builders have decided to discontinue this line temporarily, or curtail output to a minimum.

War contractors are completing their contracts and a number of large shops in the East have been shut down or their working forces have been reduced greatly. One plant in Baltimore, which has been largely on shell production, has discharged 10,000 workers. Inventories of the equipment in such plants are being made, and a few machine-tool dealers are finding a great deal of this appraisal work to do.

A list of machine tools for shipment to the Rumanian oil fields has been sent out by the Standard Oil Co. of New Jersey, as follows:

Ten 14 in., nine 18 in., eight 24 in., seven 27 in., one 36 in. engine lathes.

One 4-in. "Lo-Swing" lathe.

One flat turret lathe.

One universal milling machine.

One 72-in. vertical boring mill.

One 20 x 60 in. plain milling machine.

The Lakshmi International Merchandising Co., 71 Wall Street, New York, is being incorporated to do an import and export business with India. American machinery will be exploited in India by moving picture films, showing to the natives of that country the methods of manufacture, the uses of the machinery and results to be obtained. The company will co-operate with the Oriental Film Mfg. Co., which will conduct a moving picture business in India. Henry Doscher, vice-president North Side Bank of Brooklyn and president National

Ventilating Co., is president of the new company. Mavimilian Kahn is vice-president and treasurer. Suchet Singh and Rama Lal, natives of India, who have been in this country for several years, are members of the company. Mr. Singh will sail Feb. 15 for India to establish branch offices there in addition to its office at Bombay.

The Bartlett Hayward Co., Baltimore, has put out a large list of equipment for a ship repair plant. It is presumed to be the intention of this company to utilize one of its buildings which has been used for shell production for a ship repair plant. The list follows:

Boiler Shop

One Pyramid plate roll, 1-in. plate, 30 ft.
One hydraulic flanging machine.
One plate planer, beveling 15 ft.
One shear, 18-in. gap, 12-in. face.
One punch, 18-in. gap, 1-in. rivets, 1-in. plate.
One bolt threader (Landis 1½ in.).
Three radial countersinking drills, 4-ft. swing.
One punch, 12-in. gap, ¾-in. rivets, ½-in. plate.
One radial drill, 4 ft.
One knife shear, 8-in. face.
One plate roll 8 ft. 10 in., ¾-in. plate.
One hydraulic riveter—12-in. gap to drive 1-in. rivets, 1000-lb. W. P.
One dallet drill.

Machine Shop

One 72-in. boring mill.
One 4-ft. gap x 18-ft. slab miller.
One slotter or keyway cutter, 2-in. keyway x 39 in.
One planer, 5 in., open one side.
One planer 14 in. x 25 ft., "A" frame.
One double lathe, 20 in. x 30 ft.
One radial drill, 6-ft. swing, 2-in. drills.
One radial drill, 4-ft. swing, 1½-in. drills.

Forge Shop, also Pipe Copper and Electrical Shop

One steam hammer, 800 lb.
One steam hammer, 2500 lb.
One pipe cutter and threader, 12 in.
One pipe cutter and threader, 10 in.
One pipe cutter and threader, 8 in. and less.
One pipe bender, 6-in. pipe.
Two Bradley hammers, 50 lb.

Ship Carpenter and Rigging Shop

One circular saw, 48 in.
One swing saw, 20 in.
One 18-in. joiner.

Pattern and Joiner Shop

One 30-in. planer.
One 24-in. planer.
One molding machine, 6 in.
One mortising machine.

Structural Shop

One punch and shear, 20-in. gap, 1 x 1-in. plate.
One punch, 16-in. gap, 1 x 1-in. plate.
One punch, 30-in. gap, ¾ x ¾-in. plate.
One punch, 52-in. gap, ¾ x ¾-in. plate.
One double angle shear, 6 x ¾ in.
One shear, 12-in. face x 15 in.
One shear, 24-in. face x 30 in.
One bulldozer (Ajax No. 2).
Three radial countersinking drills, 4 ft.
One planer, 60 in. x 18 ft.
One planer, 60 in. x 12 ft.
One 14-in. hydraulic flanging machine, 100 tons.
Twelve triplex hoists, 3 ton.

Additional

One milling machine (Universal No. 4).
Ten internal grinding machines.
Inquiries for cranes are practically nil. The Raritan River Railroad has bought a 10-ton overhead crane.

A list of the cranes required for the armor plate plant at Charleston, W. Va., will soon be issued by the Navy Department.

Manufacturing plants in New England which have been on war work are changing over to peace-time occupations, and some equipment has been bought the past week for the new work. The General Ordnance Co., Derby, Conn., will devote its plant to the manufacture of tractors under the name of the National Tractor Co. An office will be opened at 512 Fifth Avenue, New York, on Feb. 15. The Nelson Blower Co., South Boston, will also make tractors. Both of these companies are adding some machine-tool equipment. The Stamford Electric Mfg. Co., Stamford, Conn., will manufacture electric motors, and has purchased a small list of tools. The Sterling Motor Truck Co., Brockton, Mass., is buying tools for the manufacture of a one-ton motor truck.

The Winchester Repeating Arms Co., New Haven, Conn., and the Marlin-Rockwell Corporation, also at New Haven, are planning new lines of manufacture, and are buying equipment. The Winchester company will make hardware and the Marlin-Rockwell Corporation will make ball bearings for automobiles. The Remington Arms Co., Bridgeport, Conn., and the Savage Arms Corporation, Utica, N. Y., are investigating new manufacturing fields. All four companies will resume manufacture of sporting rifles and ammunition, for which they were well known before the war.

The Marine Engineering & Dry Dock Co., Providence, R. I., is contemplating the construction of dry docks and a ship repair plant, which will include a machine shop. If the project goes through a large list of equipment will be bought.

The Fleming Machine Tool Co., Springfield, Mass., has been organized to manufacture a combination gap lathe, milling machine and horizontal boring mill, which is the invention of George W. Fleming, former sales manager of the Bryant Chucking Grinder Co., Springfield, Vt. The company is capitalized for \$100,000. A small list of machine-tool equipment will be bought.

The Wire Wheel Corporation of America has moved its equipment from the plant it has occupied at Springfield, Mass., to the plant of its subsidiary, the Houk Mfg. Co., 1700 Elmwood Avenue, Buffalo, and the Springfield plant has been taken over by the Government for a general salvage depot.

Bathole Freres have established offices for dealing in machine tools, metal cutting tools and supplies at 33 Souverain-Pont Street, Liège, Belgium. They propose to specialize in American machinery and are looking for exclusive representation in Belgium of American firms.

William Hussey & Son, 150 West Thirty-fifth Street, New York, manufacturers of plumbing supplies, have filed plans for a new four-story, brick extension at 233-35 West Thirty-fifth Street, about 42 x 100 ft., estimated to cost \$75,000.

The Utility Patents Corporation, New York, has been incorporated under Delaware laws with a capital of \$100,000 by Alva Collins, John T. McGovern and Herman M. Diamond, to manufacture measuring and recording apparatus for liquids, etc.

Vincent C. Pepe, 40 South Washington Square, New York, has had plans prepared for a one-story machine and repair shop, 35 x 45 ft., on Varick Street, near LeRoy Street, to specialize in automobile work.

G. S. Anderson, Brooklyn, manufacturer of metal window screens, doors, all-metal weatherstrips, etc., has opened a new shop at 1010 Fulton Street.

The George L. Pierce Mfg. Co., New York, has been incorporated with a capital of \$350,000 by George L. Pierce, 1492 University Avenue; H. D. Sabiston, 3133 Hull Avenue, New York; and F. D. Pierce, 77 Corey Street, Boston, Mass., to manufacture infants' carriages, etc.

The Orteig Motor Co., 101 West End Avenue, New York, has acquired a three-story machine shop and garage now being erected at 231 West Sixty-first Street, for about \$350,000. It will be used for the manufacture of parts and general machine work.

The Hollander Metal Stamping Co., New York, has been incorporated with a capital of \$20,000 by H. and H. and S. Hollander, 133 West 113th Street.

The Central New York Tire & Tube Co., New York, has been incorporated with a capital of \$20,000 by C. A. Welles, H. Hartstein and S. Bernheim, 35 Nassau Street, to manufacture tires, etc.

The Englander Spring Bed Co., 88 Thirty-fifth Street, Brooklyn, has filed plans for its proposed two-story plant addition on Stewart Avenue, near Johnson Avenue, 200 x 200 ft., to cost \$150,000.

The Graves Engineering Co., 27 Pine Street, New York, has filed notice of change of name to Graves, Graff & Dresser, Inc.

Willem Pot, dealer in iron, steel and shipbuilding machinery and equipment, Dorpsstraat 31, Hillegersberg, Holland, will be pleased to become the representative in that country of American manufacturers in these lines, or to arrange for an agency, particularly for shipyard equipment, cables, steam winches, capstans, windlasses, etc.

The Jersey Central Traction Co., Keyport, N. J., is planning the reconstruction of a large part of its rolling stock. The work will be handled at the local shops of the road and will require considerable new material.

The Component Parts Corporation, 99 Hoboken Avenue, Jersey City, N. J., will discontinue business and has arranged for the sale of its local plant, including machine tools and general operating equipment.

The Experimental Sheet Metal Works, 1618 Willow Avenue, Hoboken, N. J., has filed notice of organization. A. L.

Kimel and John Schaeffer, 521 East 135th Street, New York, head the company.

The Hooper Machine & Tool Co., Newark, N. J., has been incorporated with a capital of \$250,000 by Anton Felin, E. B. Shade and Hugo Burgman to manufacture tools and machinery.

The National Piston Ring Co., 293 Halsey Street, Newark, N. J., has filed notice of organization to manufacture piston rings, etc. Abbott Werner, 85 Johnson Avenue, heads the company.

The Murray Wire Co., Newark, N. J., has been incorporated with a capital of \$125,000 by J. H. Murray, Peter Igoo and J. R. Cooney to manufacture wire products.

The Walmax Mfg. Co., Newark, N. J., has been incorporated with a capital of \$125,000 by Max Walther and Oswald Jentsch, West Orange, to manufacture metal products.

The Mammoth Garage & Machine Shop Corporation, Newark, N. J., has been incorporated with a capital of \$10,000 by Thomas Callahan and Ralph Richards.

The Richardson & Boynton Co., Dover, N. J., resumed operations Feb. 10 at its local stove and range manufacturing plant, with the exception of the boiler department, which is expected to be reopened at an early date. The plant was shut down in different departments on Jan. 1, affecting about 600 men. A large number of these will now return to work.

Buffalo

BUFFALO, Feb. 10.

The Hewitt Rubber Co., maker of air-brake hose, Buffalo, has taken out a building permit for the erection of a three-story addition to its vulcanizing building at its plant, Kensington Avenue and the New York Central Railroad Belt Line.

The Buffalo Fertilizer Works, Marine Bank Building, Buffalo, will rebuild its plant at William Street and the city line, recently destroyed by fire, with a four-story building, 75 x 100 ft. J. F. Brown is manager.

The Atlas Crucible Steel Co., Dunkirk, N. Y., has had plans prepared for a hammer shop and mill building, 70 x 120 ft., one story, and 50 x 70 ft., one story, of steel frame and corrugated iron construction.

The Remington Salt Co., Ithaca, N. Y., will rebuild the boiler house at its Cayuga Lake plant, recently destroyed by fire. It will be 60 x 120 ft., estimated to cost \$25,000.

The Allis-Chalmers Co., Milwaukee, Wis., is now operating its shipbuilding plant at Fort Erie, near Buffalo, for the construction of vessels for the Canadian Government. It is expected to launch a 260-ft. cargo boat early in March.

The Jamestown Boiler Works, Jamestown, N. Y., has been incorporated with a capital of \$50,000 by G. W. Edwards, A. S. and G. O'Brien.

The Union Carbide Co., Union Street, Niagara Falls, N. Y., will build a two-story electric plant, 50 x 140 ft., to cost \$45,000.

The Strong Veneer Co., Gerry, N. Y., has increased its capital from \$100,000 to \$150,000.

The Atlantic Stamping Co., Rochester, N. Y., manufacturer of metal ware, is considering the construction of an addition to its plant.

The Athens Shipbuilding Corporation, Athens, N. Y., has increased its capital from \$100,000 to \$500,000.

The International Time Recording Co., Endicott, N. Y., is building a one-story boiler plant addition to cost \$40,000.

The Mayer-Clarkson Co., 450-454 Ellicott Square, Buffalo, has purchased a site on the Erie Railroad at Delaware Avenue on which it will erect a mill, 100 x 250 ft., for the production of cold-rolled steel.

The Azadian Instrument Corporation, Syracuse, N. Y., has been incorporated with a capitalization of \$25,000 to operate a foundry and machine shop. H. B. Azadian, V. Metzger and K. R. Standrell are the incorporators.

New England

BOSTON, Feb. 10.

Typewriter manufacturers are continuing to show greater activities than had been expected. Some orders are coming along from the automobile industry for various machine parts, such as chains for transmission and keys for gearing. Much other work is hanging fire. Government work slackens steadily and it is probable that March will see it practically closed out, though the army of occupation will need sustaining supplies and these must be provided.

A brick building, 60x304 ft., two stories, for the machine shop and office at the new marine railroad at Fields Point,

Providence, R. I., will be erected for the United States Shipping Board, Philadelphia. Contractors are now figuring upon it.

A factory addition of \$15,000 and another of \$7,500 for the Hood Rubber Co., Brookline, Mass., and for erection at the plant at Watertown, Mass., are planned and nearly ready for figuring.

Bids closed Feb. 5 for the two-story, 65x120 ft., factory to be built for the Standard Envelope Sealer Mfg. Co., Everett, Mass.

Toward the end of the current month the New Departure Mfg. Co. will be in readiness to receive bids for the new hardening shop, one story, 90x300 ft., at Bristol, Conn.

Boston Pressed Metal Co. has started work on the factory building at Worcester, Mass.

Allen & Gould, care Mark Lewis, Boston, are receiving bids for a manufacturing building, five stories, 40x60 ft., for erection on Broadway in that city.

Construction has commenced on the factory addition, \$3,000, one story, 36x85 ft., at Waterbury, Conn., for the Waterbury Farrell Foundry & Machine Co.

The Yale & Towne Mfg. Co., Stamford, Conn., manufacturer of builders' hardware, hoists, etc., has made application to increase its capital to \$10,000,000.

The Keeley Tire & Rubber Co., New Haven, Conn., has been incorporated in Delaware with a capital of \$1,000,000 to manufacture tires and other rubber products. Edward J. Keeley and Charles H. Bortell, Jr., New Haven, are the incorporators.

The Worcester Electric Light Co., Worcester, Mass., has been granted permission to issue capital stock for \$400,000, to be used for the construction of an addition to its generating plant.

Effective Feb. 1, the revolver manufacturing plant of Smith & Wesson, Springfield, Mass., has been turned over to the members of the company by the National Operating Corporation, formed by the Government to operate the plant. It has been operating at considerably reduced capacity recently and was placed under Government control Sept. 13, 1918, with Major E. F. Russell as managing director.

The Groton Iron Works, Groton, Conn., now operating its plant for the construction of vessels for the Emergency Fleet Corporation, is planning to increase the present force in the boiler manufacturing department. About 300 men will be added.

The Clinton Wire Cloth Co., Boston, Mass., has reduced its working force at its Clinton plant. The change has been necessary through the cancellation of war orders.

The Narragansett Shipbuilding Co., Portsmouth, N. H., has commenced work on the construction of a new 20,000-ton drydock for the United States Shipping Board, estimated to cost, with equipment, about \$1,000,000. It will be used by the Government at New York.

Philadelphia

PHILADELPHIA, Feb. 10.

During the past week, machine-tool dealers have noted a better inquiry for tools, but little business is being placed. The Bartlett Hayward Co., Baltimore, has come into the market for more than 60 machines and 12 hoists for a ship repair plant, but there is some scepticism as to whether this equipment will be bought. The Navy Department has been buying quite a number of tools for various yards. There are also a few railroad inquiries. The Carlson, Wenstrom Co., Philadelphia, manufacturer of cyclecars, has asked for quotations on a list of tools.

The Bureau of Yards and Docks, Navy Department, Washington, has had plans prepared for additions to shops Nos. 2 and 3 at the League Island Navy Yard, Philadelphia, to cost about \$325,000.

The Result Mfg. Co., Philadelphia, has been incorporated in Delaware with a capital of \$1,500,000 to manufacture tractors, etc. E. A. Knowlton and M. Hilles, Philadelphia, and C. A. Murphy, Blackwood, N. J., are the incorporators.

The Lowry Top & Body Co., Thirty-third and Walnut streets, Philadelphia, has filed plans for a one-story brick addition at Adams and Gaul streets, 30 x 70 ft.

The Philadelphia New Method Molding & Metals Corporation, Philadelphia, has been incorporated in Delaware with capital of \$1,000,000 by Samuel B. Howard, Phillip L. Neisser and A. W. Britton, 28 Nassau Street, New York.

William Sellers & Co., Inc., 1600 Hamilton Street, Philadelphia, has awarded a contract to Barclay, White & Co., 1713 Sansom Street, for the construction of its proposed five-story reinforced-concrete addition, 52x108 ft., to be used for a machine shop extension to its machine tool works.

The Fox Motor Co., 2545-49 North Broad Street, Philadelphia, is specializing in general machine and tool work, and the production of special tools. Ansley H. Fox is president.

The National Flue Cleaner Co., 407 South Broad Street, Trenton, N. J., manufacturer of flue cleaners, has increased its capital from \$50,000 to \$150,000.

Karl G. Roebeling, vice-president, John A. Roebeling's Sons Co., Trenton, N. J., has denied the report that the company has acquired the Florence Pipe Foundry & Machine Co., Florence, N. J.

The Traylor shipyard at Cornwells, Pa., operated by officials of the Traylor Engineering & Mfg. Co., Allentown, is reported planning for a continuance of shipbuilding work, following the completion of Government contracts.

The Mt. Wolf Repair & Novelty Works, Mt. Wolf, Pa., is planning for the establishment of a local plant for the manufacture of metal goods, etc. Allen Melhorn is president.

The Mountain Biloop Radiator Co., Lancaster, Pa., has been incorporated in Delaware with a capital of \$2,500,000 to manufacture boilers, radiators, etc. V. B. and J. B. Stauffer, V. B. Vaux and Clayton S. Billinger, all of Lancaster, are the incorporators.

The Delaware & Hudson Co., Scranton, Pa., will build a new coal breaker at Larksville, to replace the structure recently destroyed by fire with loss of about \$300,000.

The F. R. Phillips & Sons Co., Pennsylvania Building, Philadelphia, is in the market for two belt-driven two-wheel grinding machines, with sheet steel protection, and two Yeakley pneumatic hammers, one to forge pieces 10 in. wide by 6½ in. square, the other pieces 6 in. wide by 2¾ in. square, all either new or in prime second-hand condition.

Pittsburgh

PITTSBURGH, Feb. 10.

The McKenna Brass & Mfg. Co., Pittsburgh, has commenced the manufacture of a new bottling machine, which is automatic in different features and power operated.

The Gerstner Boiler Works, Pittsburgh, has been incorporated by F. P. Gerstner, Glenshaw, and associates, with capital of \$100,000.

The De Long Motor & Truck Co., Pittsburgh, will build a two-story machine shop and garage, 80 x 120 ft., on South Highland Avenue, to cost \$38,000.

The Buckeye Coal Co., Nemacolin, Pa., subsidiary of the Youngstown Sheet & Tube Co., Youngstown, Ohio, has been granted permission by the Engineering Board of the Government, Pittsburgh, to build a new coal tippie on the Monongahela River.

The Travis Glass Co., Glasgow, V. Wa., will build a one-story addition to its plant, 100 x 200 ft., for increased capacity.

Fire Feb. 6 destroyed the plant of the Rollins Chemical Co., South Charleston, W. Va., with loss estimated at \$250,000.

The Amorcord Rubber Co., Morgantown, W. Va., has been incorporated with a capital of \$250,000 by E. D. Tumlin, J. H. McDermott and F. M. Cain to manufacture tires and other automobile rubber goods.

To operate in the West Virginia coal fields a merger of 10 coal companies has been formed under the name of the Reliance Coal Co., Wheeling, W. Va., with a capital of \$7,000,000. Julius Fleischman, Cincinnati, is president, and J. T. Hatfield, Covington, Ky., vice-president and general manager. The companies included in the merger are: The Lincoln Coal Co., Reliance Coal & Coke Co., Plymouth Coal Mining Co., Hazard Junction Coal Co., Gloman Coal Co., Licking Valley Coal Co., the Workers Coal Co., and the E. J. Hickey Transportation Co. of West Virginia; and the Hatfield Coal Co., Covington, Ky.

The Marietta Mfg. Co., Point Pleasant, W. Va., will build an addition to its marine works for the construction of barges for the Government.

The Enterprise Stamping Co., McKees Rocks, Pa., manufacturer of stamped metal goods, is planning for a one-story addition to its plant at Catherine and Chambers streets.

The plant of the Keystone Bronze Co., New Brighton, Pa., was recently destroyed by fire with loss, including machinery and equipment, of about \$50,000.

The shops of the Pennsylvania Railroad at Altoona, Pa., have work ahead to provide capacity operations until next fall. The plant has orders for the construction of 1000 box cars of X-25 type and 200 flat cars. In connection with its yard extensions at West Morrisville the company is building a new engine house with shop facilities. It is proposed to have a capacity for the handling of about 100 locomotives

a day. The yard extensions will include the installation of about 50 miles of additional track, with facilities for handling close to 5000 cars a day. The entire work is estimated to cost in excess of \$6,000,000.

Chicago

CHICAGO, Feb. 10.

Activity in machine tools is at a lessened rate, compared with that which existed in January, but a fair amount of business is being done, especially in small tools, such as turning heads, cutter holders, chucks, dies and die holders, etc., which the small shops are buying to fit themselves for the resumption of regular business. Many of those who would like to buy machines admit their need, but believe lower prices can be obtained by waiting. No large lists are before the trade.

Considerable bitterness is developing over the slowness with which claims against the Government or former Government contractors are being settled, it being asserted that payments would not only enable small concerns which have money tied up to go ahead, but help solve the question of lack of employment. Instances are mentioned where operations are held up by the inability to move machines which until a few weeks ago were engaged on Government work. At the same time progress toward settlements is being made.

Representatives of the machine-tool trade regard very seriously the embargo placed on the importation of American tools to Great Britain and colonies, the restriction being regarded by some as the first step in a trade war between Great Britain and the United States. It was expected by those who have been watching events abroad that a good business would speedily develop with British manufacturers while that with France and Belgium would come later. It has been generally believed that England was as heavily overloaded with machine tools as the United States is today, but those in touch with British conditions emphasize that while a great many tools have been made in England and a great many imported a majority are played out, having been pressed to the limit in the last four years. In other words, the munitions production of England has been great and machine tools have paid the penalty.

Under the circumstances there can be no question as to new tools being needed, especially in view of the fact that some large British plants are to enter on entirely new lines of manufacture, but it is the belief of local machine-tool men that Great Britain intends to see that her own tool builders supply the demand, and it is suggested that in many cases American designs may be copied. Some of the trade argue that Great Britain would more speedily put her people to work and promote her industries generally if she admitted American tools.

The Ilg Electric Ventilating Co., Chicago, has purchased a site 325 x 1333 ft. at Crawford Avenue and George Street, on which it will erect a factory, the first unit to cost \$250,000. It is planned to erect three-story buildings, and construction will start this year, if conditions are favorable.

The Seng Co., manufacturer of furniture hardware, has purchased 377,579 sq. ft. of land at Diversey and Crawford avenues, Chicago, and plans the erection of a factory to cost about \$500,000. The present plant is at Dayton and Blackhawk streets, Chicago. It is planned to begin construction as soon as possible, but the start will be governed by business conditions.

The Isko Co., manufacturer of refrigerating machinery, Detroit, Mich., has leased 60,000 sq. ft. of floor space in a building at the northeast corner of Clybourn Avenue and Terra Cotta Place, Chicago, and it is reported that the company will remove its entire business to Chicago.

The contract for a two-story addition, 58 x 81 ft., at 3241 West Thirtieth Street, Chicago, for the Apex Appliance Co., maker of washing machines, has been let to Heide & Beck, 6437 South Morgan Street. It will be of mill construction and cost about \$20,000.

The Caldwell Electric Co., Champaign, Ill., is planning the erection of a large warehouse. The company manufactures general electrical supplies. It recently purchased a factory building into which it plans to move.

Extensive plans announced by the Studebaker Corporation, South Bend, Ind., will be completed this year, according to an announcement of the company's president, but it is not expected that it will add to its machine-tool equipment in any considerable quantity for a few months to come.

The Precision Metal Workers, Chicago, is building a two-story and basement plant, 117 x 150 ft., at Albany and Carroll avenues, to cost \$75,000. It is planned to later build additional stories.

The Dreadnaught Motors Corporation, Chicago, has been incorporated in Delaware with a capital of \$550,000 to man-

ture, automobile motors, etc. Richard H. Hollen, M. M. Hunt and John A. Massen, Chicago, are the incorporators.

Fire, Jan. 30, destroyed a portion of the plant of the Henry K. Scherer Co., Chrisman, Ill., with loss, including machinery, estimated at \$10,000.

The H. C. Automobile Co., Kokomo, Ind., is having plans prepared for a four-story and basement assembling plant, 120 x 300 ft. on Main Street. It is also planned to build a two-story large shop at a later date.

Gas-engine mechanical and electrical equipment will be required for the new filtering plant to be constructed by the city of Fort Wayne, Ind. It will be located on the St. Joe River and is estimated to cost about \$500,000. It is expected to commence work in the summer.

Milwaukee

MILWAUKEE, Feb. 10.

Gradual improvement is noted in the demand for machine tools by local manufacturers, and while new business is still of restricted volume, inquiries are of such an encouraging nature that makers believe stagnation will be overcome sooner than has been anticipated. Trade in milling machines is broadening slowly, but with a degree of certainty. While new buying comes largely from the automotive industries, orders are developing in other lines. Developments respecting exports to Great Britain are somewhat disappointing, particularly in view of the fact that tool builders have been looking forward to and actually receiving considerable business from this source. The hope is expressed, however, that export outlets in other directions will compensate to some extent for the loss of British trade and much attention is being devoted to the development of other channels.

The W. J. Pine Machine Co., Kenosha, Wis., has been incorporated with a capital stock of \$25,000 and will take over the plant and business of the Lippert Machine Co., Kenosha. The incorporators are W. J. Pine, Albert A. Buckmaster and Walter W. Hammond. Mr. Pine formerly was engaged in the metal-working business at Oshkosh, Wis. The company will do a general machinery manufacturing and repair business and plans to enlarge the buildings and equipment.

The Drew Carrier Co., Waterloo, Wis., manufacturer of automatic litter carrier systems, has passed into the ownership and control of Paul G. Goddard, president Goddard Tool Co., Chicago, and Robert Muenchill, of Hunt, Helm & Ferris, Harvard, Ill. An addition will be made to the plant and the lines of production extended to steel stanchions and other barn equipment. The officers under the former ownership will continue with the new owners. Mr. Muenchill has assumed the general management.

The Challenger Co., Oshkosh, Wis., manufacturer of wood-working machinery and general hardware specialties, will meet about \$75,000 in extensions and new equipment. A two-story building, 70x220 ft., of heavy mill construction, will be erected next spring for assembling, inspection and shipping purposes. The company will increase in particular its output of all-metal anti-skid devices for motor truck wheels.

The Laysse Aluminum Co., Kewaunee, Wis., has awarded the general contract for the erection of a two-story factory addition, 60x150 ft., to H. J. Selmer & Co., Green Bay, Wis. The company until recently was known as the Aluminum Sash Co. and at the annual meeting adopted the new style of Laysse Aluminum Co. and increased the capital stock to \$100,000 to accommodate the enlargement of the plant and buildings.

The Samsen Tractor Co., Janesville, Wis., a division of the General Motors Corporation, expects to complete the first unit of a new tractor manufacturing plant at Janesville by March 1, and will begin work immediately on the second unit equal in size to the first, which is 200x500 ft. The daily output of the first unit will be 100 tractors, which will be increased to 300 upon the completion of the second shop. J. A. Craig is general manager.

The Hayton Pump & Blower Co., Appleton, Wis., has been incorporated with a capital stock of \$50,000 by T. R. Hayton, R. D. Rasmussen and H. E. Hayton. The company has acquired the foundry and machine shop of the defunct Kitten-Strait Tractor Co., Appleton, and is converting the shop into a plant for the production of centrifugal pumps, turbines and blower systems, designed by Mr. Hayton. Mr. Rasmussen will be works manager.

The Wisconsin Farm Tractor Co., Sauk City, Wis., is considering the erection and equipment of a one-story brick and steel addition, 60x100 ft., in the spring. The cost is estimated at \$25,000. Earl McFarland is president and general manager.

The Sun Carburetor Co., Milwaukee, has been incorpo-

rated with an authorized capital stock of \$100,000 to manufacture carburetors and auxiliary devices for internal combustion engines. The incorporators are Emil F. Deuster, F. J. Ramler and J. B. Drahanovsky, all of Milwaukee. Arrangements are being made for the establishment of a machine shop. For the present brass castings will be purchased on contract.

The Phillip Schwab Co., Milwaukee, has been granted a permit to build a new machine and forge works at Sixteenth and Canal streets, to replace the plant destroyed by fire in November. It will be 50 x 150 ft., of brick, concrete and steel, part two stories, and cost \$35,000 with equipment.

The Sterling Motor Truck Co., Milwaukee, expects to complete its Government contracts by March 1 and will then shift to ordinary business, of which sufficient orders are booked to insure capacity operations for an indefinite period. The company employs 500 men and has made no reduction of forces, but may increase the number from time to time. At the annual meeting R. G. Hayssen, secretary and treasurer, was elected president, succeeding Victor L. Brown, who has retired. E. M. Sternberg is vice-president. Frank Luick, works manager, has been made secretary and treasurer.

The Board of Education, Madison, Wis., has engaged F. L. Kronenberg, architect, Carroll Building, to prepare plans for a new high school estimated to cost \$250,000. It will contain a manual training and domestic science department, assembly, gymnasium, etc. C. H. Tenney is president of the board.

The Waterworks Commission, Platteville, Wis., is taking sealed bids for a cross-compound air compressor of a capacity of 800 cu. ft. per minute. James E. Kennedy is city clerk.

The United States Switch Co., Eau Claire, Wis., is contemplating extensions of its steel foundry and machine shop facilities to meet the demand for automatic switches, signals and other railroad appliances. The company recently was organized from a Delaware corporation with \$1,750,000 capital to a Wisconsin company with a capital stock of \$300,000. The officers are: President and general manager, J. W. Hubbard; vice-president, F. E. Nicoles; secretary and treasurer, Charles McArthur; assistant secretary and treasurer, Lee Pond; directors, J. W. Hubbard, F. E. Nicoles and Charles McArthur, Eau Claire; Walter Shepard, Montgomery, Ala.

The United Phonographs Corporation, Sheboygan, Wis., is preparing to erect a factory addition for metal and wood-working to cost about \$25,000. Fred R. Dennett is general manager.

Detroit

DETROIT, Feb. 10.

Little change has been registered in the industrial lines during the past week. The tendency of manufacturers to leave their plants as they are continues. Only immediate settlement by the Government of its war contracts can bring the large industries of the district to a condition in which full-time manufacture will be undertaken. The failure of the Government to validate contracts is keenly felt. The situation is unfortunate, as automobile and accessory concerns report the largest orders on their books in the history of the industry. With the Government laggard in the settlement of claims, manufacturers estimate that it will be April 1 or later before full production is attained.

Machine-tool dealers feel the policy of manufacturers in the small demand for machines. The Canadian Government is placing on the market considerable machinery, the effect of which is also being felt. Briefly, the district shows a unanimous belief of industrial leaders that a period of "un-surpassed prosperity," is near at hand, but month by month that period is put a month farther in the future. And until that prosperity is manifest in some line, all lines refuse to create it.

The Packard Motor Co., Detroit, it is announced, will start soon the manufacture of airplanes carrying two passengers, for commercial use, containing a motor of Packard design. Officials of the company state that the machine will sell for about \$15,000. In entering the commercial plane field of manufacturing the Packard Co. will take the lead of other automobile manufacturers.

The Simpson Truck Co., St. Joseph, Mich., has changed its name to the Victory Truck Co. and has increased its capital stock from \$50,000 to \$100,000.

The Napoleon Motors Co., Traverse City, Mich., has increased its capital stock to \$500,000. It is said that the entire output of trucks for this year has been contracted for.

The Eddy Paper Co., Kalamazoo, Mich., at its annual meeting increased its capital stock from \$1,000,000 to \$2,250,000 and voted to erect a two-machine board mill and

a container board box plant. The company now has mills at Three Rivers, Mich., and White Pigeon, Mich.

The Fuller & Sons Mfg. Co., Kalamazoo, Mich., at its annual meeting voted to tear down the old shop and replace it with a modern building, the same type of construction as used in the two additions erected during the last five years. The building proposed will be 156 ft. long, four stories, of concrete, steel and brick. It will give a continuous main building 434 ft. long, four stories, with a floor space of more than 125,000 sq. ft. The officers and directors named at the annual meeting are: Directors, F. D. Fuller, W. P. Fuller, L. C. Fuller, Dr. W. E. Upjohn, S. N. Bickerstaff. President, F. D. Fuller; vice-president, L. C. Fuller; secretary, W. P. Fuller; treasurer, Dr. W. E. Upjohn.

At the annual meeting of stockholders of the Detroit Steel Products Co., Detroit, reports were submitted showing a year of successful progress, with much work completed for the Government. Officers were re-elected as follows: President, John G. Rumney; vice-president and general manager, Victor F. Dewey; treasurer, E. R. Ailes; secretary, H. F. Wardwell; assistant general manager, Mason P. Rumney; production manager, A. L. Baldwin.

Daniel W. Tower, one of the founders of the Grand Rapids Brass Co., Grand Rapids, Mich., and for many years its president, and J. Arthur Spoon have sold their interests in the company to L. H. Thullen and will retire from active connection with the enterprise. In the reorganization Mr. Thullen has been elected president, James Murray, vice-president and Carlton Austin, secretary-treasurer. The new management has plans under consideration for enlargement to give increased capacity.

The Wilson Foundry & Machine Co., Pontiac, Mich., has purchased the equipment of the Monroe Motor Co. plant here, which recently went into a receiver's hands, for \$75,000. The factory will be used to assemble motors for the Moline Tractor Co. for April delivery.

The L. A. Young Industries, Inc., Detroit, have purchased the plant of the C. F. Schmoe Furniture Co., Shelbyville, Ind., and will retain Mr. Schmoe as factory manager. This addition will be utilized for the manufacture of farm implements and springs for the southern trade. The plant has nearly 200,000 sq. ft. of floor space.

A new industry is being started in Boyne City, Mich., by Joseph Wieland, East Jordan, Mich., to be known as the Wieland Cabinet Works. Mr. Wieland was connected for many years with the East Jordan Cabinet Co.

About a year ago one of the units of the plant of the Jaxon Steel Products Co., Jackson, Mich., was burned, and, owing to the war, could not be rebuilt, due to the scarcity of materials. Very shortly after the armistice was signed work of replacing the unit was started and has been carried forward so rapidly that operations will be resumed about Feb. 15. Since December the working force has been increased, and by March 1 it is expected that between 300 and 400 will be employed. The Jaxon Co. became a subsidiary of General Motors on Jan. 1. Up to that time it was a part of the United Motors Corporation, which has been merged with the General Motors Corporation.

Two additions to the main plant of the J. E. Murray Mfg. Co., Detroit, were authorized at the annual meeting. Improvements to equipment and facilities were also authorized. In the annual report of the company the fact was brought out that during the war the company had made the only entirely successful all-steel aeroplane which is now at Morrow Field. The plane was made at the expense of the Murray company and was tested out as satisfactory by Government officials.

Owing to the increase in the volume of its business, the Peninsular Machinery Co., Detroit, has moved to the building at 279-81 East Jefferson Avenue, where it occupies the entire ground floor and two upper floors of the building. It was formerly located in the Kerr Building. The officers of the company are: John A. Flynn, president; Arthur D. McElhose, vice-president; Frederick Eberle, secretary-treasurer.

The Flower Valve Mfg. Co., Detroit, now covering 6½ acres and employing 400 men, will be doubled as the result of its sale of \$450,000 in bonds. The company was founded in 1805 and was known as the Flower-Stephens Mfg. Co. It manufactures valves and waterworks equipment and has \$5,000,000 of orders on its books for 1919. W. G. Kay, J. V. Roemer of Kay & Co., and John D. MacKay have been elected to the board of directors.

The Tripensee Mfg. Co., Detroit, manufacturer of auto bodies, has purchased the plant of the Wolverine Mfg. Co. at Twelfth Street and the Grand Trunk Railroad. The property covers 6½ acres, with about 250,000 sq. ft. floor space with two railroad sidings. The company has already taken possession and it is understood that it will at once commence production on closed body work, which will furnish employment for approximately 1600 men.

The Detroit Heat-Treating Co., Detroit, Mich., is planning for the erection of a new one-story plant, 45x60 ft. at Bellevue and St. Paul avenues.

J. C. Widman & Co., Detroit, Mich., manufacturer of automobile dashes, has increased its capital from \$150,000 to \$250,000.

The Palmer Bee Co., Cameron Street and East Grand Boulevard, Detroit, is having plans prepared for a one-story addition, 90x120 ft., to cost \$30,000. It will be used as an erecting shop.

The Muskegon Truck Co., Muskegon, Mich., has been incorporated in Delaware with a capital of \$4,325,000 to manufacture motor trucks. C. E. Johnson, Muskegon; Joseph Tozelaar, Grand Rapids, and H. L. Schuh, Lowell, Mich. are the incorporators.

The Barley Motor Car Co., Kalamazoo, Mich., manufacturer of the Roamer automobile, has established a new department at its works for the manufacture of special car bodies.

The Oliver Machinery Co., Grand Rapids, Mich., maker of machine tools, wood-working machinery, pattern shop equipment, reports that in the month of January it made the biggest shipment of its products in its history. Part of this was due to the fact that its export business has replaced some of the domestic business of previous months. Old export orders were allowed to be filled because of shipping conditions improving. The company states that: "Orders received during the month of January were also very gratifying, being within 10 per cent of our average monthly business for the past year, while a part of our business, and we might say a substantial part, is export. At the same time every time we receive an order for a carload of machinery for export we must bear in mind that we have to purchase a certain amount of steel, which purchase is domestic business. We have to purchase almost a carload of cast iron, which is indeed domestic business, etc., until all of the parts that go into our machinery are ordered."

Cincinnati

CINCINNATI, Feb. 10.

Although foreign inquiries are quite numerous they are slow in developing into orders. The mails are quite heavy with letters from individuals and firms in different parts of Europe soliciting sales agency accounts. Many of these are known to be reputable concerns and all these requests are given careful attention. Much complaint is made as to the red tape necessary in making foreign shipments. Recently a firm made a shipment of machine tools to Buenos Aires, Argentina, and found it necessary to furnish a total of 16 invoices for the shipment, in addition to other necessary papers. The question of higher freight rates from United States ports to South America compared with those from Europe is another matter that is giving some concern, especially as to future business. The Foreign Department, Cincinnati Chamber of Commerce, through its president, Robert S. Alter, is working vigorously to remedy these matters and has issued a call for co-operation in the work from all manufacturers and exporters in this vicinity and elsewhere.

Domestic business in machine tools is only fairly satisfactory. Scattered orders are coming from tractor manufacturers and automobile makers. The general inquiry from the Central West is encouraging; that from the East is somewhat disappointing. In spite of labor troubles on the Pacific Coast a number of inquiries are received from that section. With the exception of shaping machines and certain sizes of lathes, selling agents' stocks are said to be somewhat limited. The demand for portable electric drilling and grinding machines is holding up well.

The Cincinnati Iron & Steel Co., Cincinnati, advises that the addition to its plant on Front Street, now under construction, will be completed and occupied within 30 days. All of the necessary equipment has been purchased.

The Advance Foundry Co., Dayton, Ohio, has removed its offices and plant from Crane and Harshman streets to its new location on Parnell Avenue.

It is reported that the Dayton Fan & Motor Co., Dayton, intends to increase the capacity of its plant at an early date.

The Armstrong Mfg. Co., Springfield, Ohio, is in the market for some general machine shop tools, including lathes, milling and shaping and gear cutting machines.

The Home Vulcanizing Co., Portsmouth, Ohio, will establish a plant for the manufacture of automobile tires. E. C. Collins is proprietor.

The Asphalt Mfg. Co., Lancaster, Ohio, recently incorporated with \$25,000 capital stock, is fitting up a plant for the manufacture of composition roofing and asphalt shingles.

St. Louis

ST. LOUIS, Feb. 10.

The Pioneer Coal & Mining Co., Tulsa, Okla., has been incorporated with a capital of \$200,000 by R. B. Pugh and C. A. Coffey, Morris, Okla., and Arthur B. Roberts, Oklahoma City, Okla., and is in the market for coal mining equipment, power plant machinery, etc.

B. F. Hadden, Blythe, Ark., will install machinery in a plant 20x150 ft. for the manufacture of concrete blocks.

The United Oil Mills, W. Y. Foster, Sr., Hope, Ark., president, will equip a plant at Ashdown, Ark., the building to cost \$50,000 and the machinery \$150,000. Bids are being asked.

The Bridge & Beach Mfg. Co., St. Louis, stove manufacturer, will erect a two-story addition to its plant. H. C. Hooser is vice-president.

The Tulsa Boiler & Sheet Iron Works, Tulsa, Okla., J. F. McKelvey, president, P. O. Box 1926, will equip an extension to the main shop, 100x100 ft., and is in the market for about \$15,000 worth of machinery, including punches, shears, bending machinery, etc.

The Big Elk Oil & Gas Co., Pawhuska, Okla., R. L. Hall, president, will equip a pumping station requiring gas engine pumps, etc.

The De Leon Refining Co., De Leon, Tex., M. E. Smith and E. E. Costly, Tulsa, Okla., and W. R. Robins, Muskogee, Okla., interested, will equip a 3000-bbl. oil refinery to cost about \$300,000.

The Leach-Nobles Ice Co., Marks, Miss., will install ice-making equipment to cost about \$15,000.

The Crawley Ice Co., Clarksdale, Miss., will remodel its plant and add new machinery to cost about \$40,000.

The Calcasieu Sawmill Co., Alexandria, La., has been incorporated with a capital of \$90,000 by J. E. Crawford and B. H. Miller of Lake Charles, La., and others, and is in the market for equipment.

The city of Natchez, Miss., the mayor in charge, will equip river terminals with mechanical loading and unloading machinery, for which bids are being sought.

The Louisiana Crushing Co., Houma, La., C. S. Elms, manager, will equip a shell crushing plant and is in the market for machinery.

The Hussmann Refrigerator & Butchers' Supply Co., 911 North Broadway, St. Louis, will equip a \$50,000 addition to its plant.

The Climber Motor Corporation, H. F. Buhler, manager, will equip a plant at Little Rock, Ark., to manufacture parts and also to assemble automobiles. George Schoneck, 217 Boyle Building, is manager.

The American Tire & Rubber Co., Muskogee, Okla., has been incorporated with a capital stock of \$100,000 by C. F. Harris, Poteau, Okla.; William McMullen, Fort Smith, Ark., and others, to manufacture tires.

The Sharp Auto Supply Co., Oklahoma City, Okla., capital \$5000, has been organized by R. L. Sharp and others and will equip a plant to manufacture automobile supplies.

The Yale Tire & Rubber Co., Yale, Okla., H. S. Blynt, manager, will equip a plant for the manufacture of automobile tires, tire protectors, tubes, etc.

Carnegie, Okla., Ray Benward, mayor, will extend its waterworks plant and requires about \$12,000 worth of machinery.

Stillwater, Okla., will equip a new pumping station, the Mackintosh-Walton Co., State National Bank Building, Oklahoma City, Okla., engineers; J. L. Moore, commissioner of finance and accounting, in charge.

The Railroad Administration has placed orders with the St. Louis Boat & Engineering Co., St. Louis, for the construction of four self-propelling barges of 2200-ton capacity, to cost \$244,300 each.

Cleveland

CLEVELAND, Feb. 10.

The General Motors Corporation has placed additional orders for machine tool equipment for its Chevrolet plant in Toledo, Ohio, and it is stated that the total purchases aggregate \$12,500. The equipment was for the most part automatic machines, chucking lathes, grinding and drilling machines. The General Motors Corporation has also placed orders for a small amount of equipment for its Michigan plants, the total requirements for which will amount to several millions of dollars. Turret lathe builders report some improvement in orders and inquiries and are getting more encouraging reports as to business prospects from the Chicago and Detroit sections. The Standard Oil Co. is inquiring for 10 or 12 machine tools for export to Rumania, and

some small lot inquiries for turret lathes have come from England and South America.

A great deal of second-hand machinery is being offered by manufacturers who are anxious to dispose of equipment used on Government contracts and for which they have no further use. However, there is considerable of a deadlock between the owners and dealers over prices and the latter will not consider the purchase of much of this equipment at prices the owners ask.

The Frantz-Premier Co., Cleveland, and the Edison Electric Appliance Co., Chicago, have combined under the name of the General Vacuum Cleaning Corporation for the manufacture of vacuum cleaning equipment. It is stated that the General Electric Co., of which the Chicago company was a subsidiary, will retain a large interest in the new company, but that the control will be with the Frantz-Premier interests and the headquarters maintained in Cleveland. The capital stock of the new company will be \$5,000,000 in preferred and \$2,000,000 in common stock.

The Defiance Machine Works, Defiance, Ohio, announces that it has voluntarily discontinued its Government contract for the manufacture of 3-in. anti-aircraft guns for the Navy, for which a new plant was erected. It is stated that the Government allowed the plant to continue its contract until June, but it was decided to discontinue making the guns to save the Government additional expense and to enable the management to readjust its factory at once preparatory to devoting the entire works to the manufacture of commercial products.

The Ohio Steel Foundry Co. has closed its Bucyrus, Ohio, plant, which has been operating at 100 per cent capacity on Government work. It will keep in operation its Lima and Springfield, Ohio, plants.

The Faultless Anchor & Mfg. Co., Findlay, Ohio, will shortly place its plant in operation for the manufacture of anchors used in supporting telephone and telegraph poles and other products. Starting the plant was delayed because of inability to secure material during the war.

The plant of the Tucker Wood Work Co., Sidney, Ohio, has been sold at sheriff's sale to Royal E. Scott, secretary, Willys-Overland Co., Charles J. Widmer and Charles Frost. The latter were formerly connected with the Sidney Tool Co. It is stated that the new machinery being installed is for the manufacture of automobile steering wheels and top bows.

The Buckeye Aluminum Co., Wooster, Ohio, has commenced the erection of an addition, 96 x 120 ft.

The Krein Chain Co., Wapakoneta, Ohio, recently completed an addition to its plant, 45 x 140 ft.

The Redding Steel Products Co., 825 Schofield Building, Cleveland, contemplates erecting a new plant.

The Buckeye Machine Co., Lima, Ohio, has increased its capital stock from \$100,000 to \$150,000 with a view to making extensions to its equipment.

The Spencer Metal Toy Co., Spencer, Ohio, has been organized and will be incorporated with a capital stock of \$100,000 to manufacture toys and various specialties. A factory will be erected. George Bouthinon, manager of the Spencer Metal Products Co., is the chief promoter.

The Pacific Northwest

SEATTLE, Feb. 4, 1919.

The past week has shown men of all lines merely marking time, pending the development of the labor situation. Naturally, business conditions are extremely unsettled, and no definite plans are being made for the immediate future. Demands for machinery and equipment of all kinds have shown a decided falling off. The cessation of all shipyard activities has caused extreme depression in all lines serving that industry.

To date no shipyards in Seattle have been advised of cancellation of their contracts, although several yards have been asked to report on cost involved in the cancellation of a number of orders for 8800-ton steel carriers. Steel shipyards in Portland recently received orders to suspend all work on steel ships that cannot be completed by July 1. About 25 vessels are affected by the order, representing total contract valuation of about \$38,000,000. It is unofficially reported that the action was taken by the Shipping Board due to a decision to cease construction of 8800-ton carriers and smaller types, and undertake construction of larger vessels. This may give Portland shipyards replacement contracts equivalent to tonnage lost in suspensions.

The plant of the Wenatchee Woodworking Co., Wenatchee, Wash., was completely destroyed by fire recently, with a loss of about \$7,500. A. S. Ewing, owner, states it will be rebuilt.

J. B. Mant formerly of Portland, Ore., plans establishment in Nampa, Idaho, of an iron foundry to cost \$20,000.

The Nampa Iron Works plant, which has been closed for some time, will be taken over and additional equipment will be installed.

The Northwest Aircraft Co., Spokane, recently organized, plans to construct hangars for airplane storage, and to erect a plant where machines will be manufactured.

The Morrison Wire & Steel Works, Vancouver, B. C., whose plant was destroyed by fire recently, has leased a site on Industrial Island and will erect a temporary building, to be used while plans are being prepared for the large new plant.

The Standard Oil Co. will begin work shortly on the big distributing plant to be built in Astoria, Ore., at a cost of \$200,000. Site for the plant was purchased shortly before the war.

Hutchison Bros. & Co., Ltd., Vancouver, B. C., will construct a new foundry building 60x120 ft. The company has contracts for construction of six engines for the Foundation Co.

Work has been started on the plant of the Tudhope Electric Metal Co., Ltd., Vancouver, B. C., which will be equipped with electric furnaces and equipment for handling scrap metals. Buildings, exclusive of equipment, will cost \$5,000.

The West Coast Coal & Dock Co., Portland, recently organized, will construct large bunkers for handling ship fuel and for exporting coal. Most modern coal-handling equipment will be installed.

The Gulowsen-Grei Engine Co., Seattle, has completed and formally opened its large engine-manufacturing plant on Salmon Bay. The plant will turn out engines from 10 hp. to 400 hp.

Texas

AUSTIN, Feb. 8.

The New-Tex Refining Co., Wichita Falls, is having plans prepared for an oil refinery with a daily capacity of 2,000 bbl. The company is capitalized for \$200,000. Dr. E. B. Bailey is president.

The Wichita Falls Electric Co., Wichita Falls, plans to enlarge its plant to supply power for the town of Burkburnett and to operate well-drilling rigs.

The Aransas Compress Co., Athens, will construct a cotton compress at Robstown.

L. H. Owens and W. H. Hawley, Fort Worth, plan to construct an oil refinery at Weatherford.

Canada

TORONTO, Feb. 10.

According to W. J. Elliott, Canadian manager, Whitman & Barnes, manufacturers of drills, wrenches, hammers, automobile fixtures and tools, with plants at Chicago, Akron, and St. Catharines, Ont., will build a plant within a short distance of its present factory at St. Catharines, Ont.

Bids will be received until March 7 by A. J. Fortier, Pembroke, Ont., for furnishing and installing a waterworks pumping unit comprising turbine pump of 2000 gal. capacity against 350 ft. head, and steam turbine or gasoline engine direct connected to pump.

The St. Maurice Paper Co., Cap de la Madeleine, Que., will build an addition to its mills costing \$375,000. Reginald Louthood is manager.

The Riverside Lumber Co., Cap de la Madeleine, Que., will build a pulp mill to cost about \$200,000. H. Bierman, manager Canadian-Belgo Pulp & Paper Co., Shawinigan Falls, Que., is interested.

The Laurentide Co., Ltd., McGibbon Street and Third Avenue, Grand Mere, Que., will construct a paper mill costing \$400,000. George Cahoon, Jr., is president.

W. J. Holden, Collingswood, Ont., has purchased a site and will build a planing mill and sash and door factory to cost \$40,000.

The town of Moosomin, Sask., proposes to install an electric light plant at a cost of about \$50,000.

Plans are being prepared for a coaling plant at North Bend, B. C., for the Canadian Pacific Railway. F. W. Peters, Vancouver, B. C., is superintendent. The company also plans the erection of a power house at Smithers, B. C., and the installation of machinery, costing \$25,000. A Kilpatrick is local superintendent.

The St. Maurice Foundry Co., Ltd., Three Rivers, Que., is building an addition to its works costing \$5,000.

The Andrews Wire Co., Watford, Ont., will build an addition to its plant and purchase new machinery.

The Imperial Munitions Board is offering for sale the ma-

chinery and equipment of the aircraft division of the Willys-Overland, Ltd., West Toronto. Foundry, blacksmith and hardware equipment and a large amount of miscellaneous supplies are included.

The plant of the National Abrasive Co., Niagara Falls, Ont., was damaged by fire Feb. 6, with a loss of \$5,000. The company recently removed its plant from Hamilton, Ont., on account of its inability to secure sufficient power.

California

SAN FRANCISCO, Feb. 4

Apparently there is to be no general strike in this territory, although the situation is still regarded as being in unstable equilibrium. The shipyard workers are working under the Macey scale, and while there is some protest, it is not likely that they will go out of their own accord. The men in the machine shops have reached an agreement on a compromise basis with their employers regarding the retroactive wages they claimed. By this compromise a lump sum is to be paid the men in installments and the understanding of the men was that the first installment was to be paid Feb. 3. This was too early a date for the employers to calculate the amount due the men, and on the morning of Feb. 3 they stated that the first installment would be paid Feb. 10. About 500 boilermakers at once struck in Oakland, closing the Standard Brass Casting Co., the Atlas Gas Engine Co., the C. L. Best Traction Co., and the Marchant Calculating Machine Co. Later the men voted to return to work the next morning, but a number of them failed to do so. The Iron Trades Council is doing all it can to hold the men to their agreement and it has ordered all the men to return by Monday, Feb. 10, on the penalty of expulsion. It has also agreed to do away with the Saturday afternoon off, which many of the unions demanded, and to work the full 48-hr. week except during the summer. These policies may bring peace to the labor situation unless the radical element gets into control. It is believed here that if the compromise payments are made promptly in accordance with the latest agreement that there will be no further labor trouble here of a serious nature until the expiration of the Macey agreement and negotiations begin on the readjustment to follow.

The shipyards are buying a goodly number of small lathes of standard size for furnishing machinery equipment for the ships which are being completed in this neighborhood.

A rather unusual demand for second-hand machinery has arisen among smaller shops which are seeking to improve their facilities without paying what they consider excessive prices for new machinery. Smaller-sized lathes are particularly in demand.

It is reported in Stockton that the Samsan Sledge-Grp Tractor Co. is planning to establish a factory in that city, but it is understood in San Francisco that the new factory will be established in Oakland.

A. T. Berschig, Hanford, Cal., is erecting a building at a cost of \$3,000 to give him more room for his machine shop.

Wooock Brothers, Lodi, Cal., have organized the Superior Mfg. Co. to manufacture pumps, etc. The machinery is said to have been ordered in the East.

Peter M. Nielsen, Honolulu, T. H., is planning to establish a brass and other metal foundry in that city.

The American Can Co., Honolulu, T. H., has taken out a permit for the extension to its plant at Iwilei which will cost in the neighborhood of \$145,000.

The Edwin Forrest Forge Co. has closed its San Francisco shop and amalgamated the plant with that located at Fruitvale. The latter plant has always been the more important and all large work has been done there, while the San Francisco plant has been run more as an accommodation for the trade, as a place where quick, small jobs could be turned out. Since the first of the year the company has installed two new 2-ton Bement hammers and the amalgamated shop is now able to turn out 50 per cent more work than last year. Headquarters of the company remain in San Francisco, where new offices have been established at 75 Fremont Street. The company expects to receive many foreign orders, and will be represented in the Orient by William Hayes of Wilcox & Hayes, Portland, who will establish headquarters at Shanghai, China.

Louis G. Henes, dealer in machine tools, has moved his office to 75 Fremont Street, where he has leased some of the floor space of the Joshua Hendy Iron Works. In his new locality he will have floor space for a showroom. He will continue his branch office at Los Angeles in the Security Insurance Building.

E. G. Soeth, formerly connected with the Pacific Coast Steel Co., San Francisco, has opened an office of his own in the Sharon Building, San Francisco, under the name of the

Comstock Metal & Machinery Co. He expects to do a considerable export business.

An electric power plant for works operation will be erected in connection with the new plant of the Northern California Mill Process Association, Sacramento, Cal., on a local site. David M. Ellis is manager.

The San Diego & Arizona Railway Co., San Diego, Cal., has awarded a contract to Brawner & Hunter, San Diego, for a steam forge and blacksmith shop and boiler plant at Salton and Main streets, to cost \$15,000.

The Yankee Battery Mfg. Co., San Diego, Cal., has been incorporated with a capital of \$75,000 by C. D. James, C. C. Reynolds and W. E. Zelle to manufacture electric batteries.

Incinerable mechanical and electrical equipment, including motors, hoisting and conveying apparatus and general transmission machinery will be required for the new incinerator plant, reinforced concrete wharf and warehouse, and water filtration plant, planned by the city of Sacramento, Cal., as municipal projects. The filtration plant, with machinery and equipment, is estimated to cost \$1,200,000; the wharf and warehouse, \$160,000, and the incinerator, \$143,000. An election has been called to vote bonds for the work. The city engineering department will be in charge.

Claremont & Moss, 959 East Fourth Street, Los Angeles, have filed notice of organization to manufacture well drilling equipment, etc. George Renwick, 1625 Fifth Avenue, heads the company.

The Pacific Whitney Tractor Corporation, Los Angeles, has been incorporated with a capital of \$250,000 by C. M. Myers, C. S. Raymond and I. L. Blinn to manufacture tractors for farm use, etc.

The Bakersfield Studebaker Garage, Bakersfield, Cal., has acquired property at Fourth and North streets, Taft, for a new machine and automobile repair shop to cost about \$20,000.

The McKnight Fire Brick Co., Los Angeles, is contemplating the erection of a new manufacturing plant in the vicinity of Bakersfield, Cal.; the selection of a site is now under way, with consideration to a location at Porterville. The plant will specialize in the production of magnesite brick and will be built in individual units, the first to cost about \$10,000. J. L. and J. H. McKnight head the company.

The Union Tank & Pipe Co., Los Angeles, has been incorporated with a capital of \$100,000 by Edward J. Bowen, Stuart M. Salisbury and Morgan L. Sweeney to manufacture steel tanks and pipe.

Baltimore

BALTIMORE, Feb. 10.

The Bartlett-Hayward Co., Baltimore, has purchased the stock of the Hammered Piston Ring Co. of America, manufacturer of high-grade piston rings, with a plant at Newark, N. J. No changes in the active management of the company are contemplated. It is planned to continue the operations of the plant at Newark and the overflow of orders will be filled at one of the Bartlett-Hayward Co.'s plants in Baltimore, where there are ample facilities because of the cancellation of many war contracts.

Vaile & Young, manufacturers of metal cornices and roofing, Bush and Bayard streets, Baltimore, will build a one-story storage building.

The following in Baltimore will install motors: Knickerbocker Carpet Cleaning Co., 962-6 North Ensor Street, 15-hp.; A. Bossett & Son, 121 Wilkins Street, 15-hp.; J. George Lampy, 606 South Broadway, 30-hp.; Stephen Clark, 502 Pennsylvania Avenue, 25-hp.

The Magneto & Machine Co., 1031 Cathedral Street, Baltimore, will build a one-story addition to machine shop to cost \$2,000.

W. F. Applegarth, Golden Hill, Md., will build an addition to a tanning plant and wants prices on machinery, including 75-hp. steam boiler and 25-hp. engine.

The Navy Department, Washington, plans the erection of an addition to the machine shop at Indian Head, Md.

J. H. Hoopes, Denbigh, Va., wants dealers' prices on punches, shears, bolt cutters, drill presses, 15-in. shapers, 24-in. lathes with 30-ft. bed, 16-in., 36-in. and 48-in. lathes, boring and turning mills, side planers, 18-in. toolroom lathes, milling machines, pipe-cutting machines, portable boring bars, portable valve seat facing machines, vises, taps, dies, drills and other machinery.

The Virginia Iron Works, Norfolk, Va., has awarded a contract for the construction of 55x70 ft. machine shop to cost about \$10,000.

It is understood that the Newport News Shipbuilding &

Dry Dock Co., Newport News, Va., will resume work of construction on a \$3,000,000 plant for the manufacture of boilers for steamships.

The American Truck Body Co., Martinsville, Va., plans to install machinery to manufacture metal truck bodies. Prices on the machinery are sought. R. A. Fontaine is manager.

Hackley Morrison, Moore Building, Richmond, Va. wants prices on 125- or 150-hp. portable return tubular boilers.

The Sydnor Pump & Well Co., 1310 Main Street, Richmond, Va., is seeking prices on cutting and welding machines, screw-cutting lathes and pipe-threading machines.

The Williamsburg Power Co., Williamsburg, Va., wants prices on generators and boilers.

Prices on automatic pumping equipment are sought by J. A. Smith, Cary, N. C.

The Southern Metal Culvert Co., Salisbury, N. C., wants prices on punches and riveters.

Bolt and pipe threading machine prices are wanted by C. W. Hodges, Newbern, N. C.

Huntington & Guerry and the Gower-Mason Electric Co., Greenville, S. C., plan to establish a plant for the repair of various electric equipment.

The Battey Machinery Co., Rome, Ga., is in the market for good second-hand 5- or 6-ft. swing radial drills.

The Lysterly Milling Co. wants price on 100-hp. electric generators and motors.

The C. I. Capps Co., Jacksonville, Fla., has been organized and has leased a plant and purchased foundry equipment. Additional equipment, including an electric furnace, lathes grinders and drill presses may be installed for the manufacture of ship fittings and machinery and brass and aluminum castings. Prices are wanted on electric furnaces. C. I. Capps is president and manager.

The Bethlehem Steel Co., Sparrows Point, Md., is having plans prepared for a new pumping plant, 50 x 75 ft., to cost, with pumping apparatus, \$25,000.

The Navy Department, Washington, will erect an extension to the press house and accumulator works at the naval station, Indian Head, Md.

An appropriation of \$200,000 has been requested by Franklin K. Lane, Secretary of the Interior, from the House Committee on Appropriations to investigate the possibilities of the establishment of a series of hydroelectric and steam generating stations in New England and the Middle Atlantic States, with transmission systems, for industrial power and other service.

The Railroad Administration has placed an order for 20 barges of 500 tons to the Murnan Shipbuilding Co., Mobile, Ala., at a cost of \$6,000 each, which are to be used on the Black Warrior River.

The Southern Metal Culvert Co., Salisbury, N. C., recently organized, is planning for the installation of machinery. W. P. Quinn is president.

The Kelly-Springfield Tire Co., Akron, Ohio, is having revised plans prepared for its proposed plant at Cumberland, Md. It is expected to call for erection bids in the spring. Harry G. Blanchard, Akron, is engineer.

The Double Shoals Cotton Mills, Shelby, N. C., has broken ground for a new machine shop. It is also planning an electric light and power system at its industrial village.

The Haynes Rubber Co., Winston-Salem, N. C., is planning to double the capacity of its plant for the manufacture of automobile tires.

Government Purchases

WASHINGTON, Feb. 10.

Bids will be received by the Bureau of Supplies and Accounts, Navy Department, Washington, for early delivery under schedules as follows: Schedule 3714, miscellaneous machining of parts, Alexandria, Va.: 3710, 1 upright drill, 1 twist drill grinder, 1 double arbor grinder, 1 engine lathe, 1 bolt threading machine, 1 pipe machine and 1 crank shaper, all South Boston; 3719, 1 emery grinder, Hampton Roads, Va.: 3665, for 100 2-ton coaling hooks for Norfolk and Brooklyn; 3728, 3 polishing and 3 grinding machines, Puget Sound; 3732, 1 punching machine, Charleston, S. C.: 3741, 1 shearing machine, Charleston, opening March 11; 7770½, 1 cutter grinder, f.o.b. works, opening Feb. 21; 7772½, 1 drop forge finishing die, 1 finishing punch and 1 plate trimmer, Washington, opening Feb. 25.

The purchasing agent of the Alaskan Engineering Commission, Seattle, Wash., will receive sealed bids until March 3, under circular 355, for furnishing 1 engine lathe, 1 machine shop planer, 1 drilling machine, 1 steam hammer, 2 Westcott lathe chucks, 1 drill press vise chuck, 1 index cutter, 1 Babbitt furnace, 1 Keystone reversible ratchet, 1 locomotive boring bar and 4 ball-bearing journal jacks.

Current Metal Prices

On Small Lots, from Merchant's Stocks, New York City

The quotations given below are for small lots, as sold from stores in New York City by merchants carrying stocks.

As there are many consumers whose requirements are not sufficiently heavy to warrant their placing orders with manufacturers for shipment in carload lots from mills, these prices are given for their convenience.

On a number of articles the base price only is given it being impossible to name every size.

The wholesale prices at which large lots are sold by manufacturers for direct shipment from mills are given in the market reports appearing in a preceding part of THE IRON AGE under the general headings "Iron and Steel Markets" and "Metal Markets."

Iron and Soft Steel Bars and Shapes

Per lb.

Bars:

| | |
|--|--------|
| Merchant iron, base price | 4.57c |
| Refined iron, base price | 5.32c |
| Burden's H. B. & S. bar iron, base price | 6.30c |
| Burden's best bar iron, base price | 6.50c |
| Norway bars, base price | 20.00c |

Soft Steel:

| | |
|-------------------------------|-------|
| ¾ to 1½ in., round and square | 3.97c |
| 1 to 6 in. x ¾ to 1 in. | 3.97c |
| 1 to 6 in. x ¼ and 5/16 | 4.07c |
| Rods—¾ and 11/16 | 4.02c |
| Bands—1½ to 6 x 3/16 to No. 8 | 4.57c |

Shapes:

| | |
|--------------------------------|-------|
| Beams and channels—3 to 15 in. | 4.07c |
|--------------------------------|-------|

Angles:

| | |
|-------------------------------------|-------|
| 3 in. x ¼ in. and larger | 4.07c |
| 3 in. x 3/16 and ½ in. | 4.32c |
| 1½ to 2½ in. x ½ in. | 4.32c |
| 1½ to 2½ in. x 3/16 in. and thicker | 4.07c |
| 1 to 1½ in. x 3/16 in. | 4.12c |
| 1 to 1½ in. x ½ in. | 4.17c |
| ¾ x ¾ x ½ in. | 4.22c |
| ¾ x ¾ in. | 4.27c |
| ¾ x ½ in. | 5.07c |
| ½ x 3/32 in. | 5.77c |

Tees:

| | |
|----------------------------|-------|
| 1 x ½ in. | 4.47c |
| 1½ in. x 1½ in. x 3/16 in. | 4.37c |
| 1½ to 2½ x ¼ in. | 4.17c |
| 1½ to 2½ x 3/16 in. | 4.17c |
| 3 in. and larger | 4.12c |

Merchant Steel

Per lb.

| | |
|---------------------------------|-----------------|
| Bessemer machinery | 3.97c |
| Tire, 1½ x ½ in. and larger | 3.97c |
| Toe calk, ½ x ¾ in. and larger | 4.72c |
| Open-hearth spring steel | 8.00c |
| Standard cast steel, base price | 16.00c |
| Extra cast steel | 18.00 to 20.00c |
| Special cast steel | 23.00 to 25.00c |

Tank Plates—Steel

| | |
|-------------------|-------|
| ¼ in. and heavier | 4.27c |
|-------------------|-------|

Sheets

Blue Annealed

Per lb.

| | |
|--------------------|-------|
| No. 8 and 3/16 in. | 5.12c |
| No. 10 | 5.17c |
| No. 12 | 5.22c |
| No. 14 | 5.27c |
| No. 16 | 5.37c |

Box Annealed—Black

| | Soft Steel C. R., One Pass, per lb. | Wood's Refined, per lb. |
|----------------|---|-------------------------------|
| Nos. 18 to 20 | 6.02c | — |
| Nos. 22 and 24 | 6.07c | 7.62c |
| No. 26 | 6.12c | 7.67c |
| No. 27 | 6.17c | — |
| No. 28 | 6.22c | 7.82c |
| No. 29 | 6.32c | — |
| No. 30 | 6.42c | — |

No. 28, 36 in. wide, 10c higher.
Genuine Russia, as per assortment. 22½ to 25c
Patent planished, W. Dewees Wood.

A 13 to 13¼c; B 11 to 11¼c net

Galvanized

Per lb.

| | |
|-----------------------------------|-------|
| No. 14 | 6.67c |
| No. 16 | 6.82c |
| Nos. 18 and 20 | 6.97c |
| Nos. 22 and 24 | 7.12c |
| No. 26 | 7.27c |
| No. 27 | 7.42c |
| No. 28 | 7.57c |
| No. 30 | 8.07c |
| No. 28, 36 in. wide, 20c. higher. | — |

Corrugated Roofing, Galvanized

2½ in. corrugations, 10c. per 100 lb. over flat sheets.

Brass Tubes, Rods and Wire, and Copper Tubes

Manufacturers have withdrawn all quotations because of unsettled prices of raw materials and will only name prices to actual buyers.

Copper Sheets

Sheet copper, hot rolled, 16 oz., 28c. to 30c. per lb.
Cold rolled, 14 oz. and heavier, 1c. per lb. advance over rolled.

Polished, 20 in. wide and under, 1c. per sq. ft. extra.

20 in. wide, 2c. per sq. ft. extra.

Planished copper, 1c. per sq. ft. more than polished.

Tinning, one side, 6c. per sq. ft.

Tin Plates

Bright Tin

| Grade | Grade |
|----------|----------|
| "AAA" | "A" |
| Charcoal | Charcoal |
| 14x20 | 14x20 |

| | | |
|-------|---------|---------|
| IC | \$11.65 | \$10.40 |
| IX | 13.85 | 12.35 |
| IXX | 15.60 | 14.10 |
| IXXX | 17.35 | 15.85 |
| IXXXX | 19.10 | 17.60 |

Coke—14x20

| | Primes | Waste |
|---------|--------|-------|
| 80 lb. | \$8.70 | 8.80 |
| 90 lb. | 8.80 | 8.90 |
| 100 lb. | 8.90 | 9.15 |
| IC | 9.15 | 9.30 |
| IX | 10.30 | 10.45 |
| IXX | 11.45 | 11.60 |
| IXXX | 12.60 | 12.75 |
| IXXXX | 13.75 | 13.90 |

Terne Plates

8-Lb. Coating 14x20

| | |
|---------|---|
| 100 lb. | — |
| IC | — |
| IX | — |

Tin

| | |
|-------------|------------|
| Straits pig | 74c to 75c |
| Bar | 85c to 86c |

Copper

| | |
|--------------|------------|
| Lake Ingot | 23c to 24c |
| Electrolytic | 23c to 24c |
| Casting | 23c to 24c |

Spelter and Sheet Zinc

| | |
|-------------------------------|----------------|
| Western spelter | 10c to 11c |
| Sheet zinc, No. 9 base, casks | 15c; open 15½c |

Lead and Solder*

| | |
|-------------------------|-----------|
| American pig lead | 6½ to 7c |
| Bar lead | 7½c to 8c |
| Solder ½ & ½ guaranteed | — |
| No. 1 solder | — |
| Refined solder | — |

*Prices of solder indicated by private brand vary according to composition.

Babbitt Metal

| | |
|---------------------------|---|
| Best grade, per lb. | — |
| Commercial grade, per lb. | — |

Antimony

| | |
|---------|------------|
| Asiatic | 10c to 11c |
|---------|------------|

Bismuth

| | |
|---------|------------------|
| Per lb. | \$4.50 to \$5.00 |
|---------|------------------|

Aluminum

| | |
|---|------------|
| No. 1 aluminum (guaranteed over 99 per cent pure), in ingots for remelting (carload lots), f.o.b. mill, per lb. | 33.10 |
| In small lots | 38c to 40c |

Old Metals

Prices are generally lower, but business is as dull during the past few weeks. Dealers' buying prices are nominally as follows:

| | |
|---|-------|
| Copper, heavy and crucible | 15.00 |
| Copper, heavy and wire | 14.00 |
| Copper, light and bottoms | 12.00 |
| Brass, heavy | 8.00 |
| Brass, light | 7.00 |
| Heavy machine composition | 15.00 |
| No. 1 yellow rod brass turnings | 9.00 |
| No. 1 red brass or composition turnings | 13.00 |
| Lead, heavy | 4.00 |
| Lead, tea | 3.00 |
| Zinc | 5.00 |

